

## Berlin notebook

### Future think

Two years ago the famous Aspen Institute for Humanistic Studies in Colorado, decided to establish a European office. They chose Berlin for the purpose—the crossroads of Europe—and with the goodwill of the city authorities, they acquired a magnificent site on the banks of the Wannsee, where once Joseph Goebbels lived in luxury. It came as a distinct shock to ignorant foreigners to discover how much of the surface area of West Berlin is taken up by lakes and woodland. As it is, the city is claustrophobic enough: without these lungs it would never breathe.

Last week the Aspen Institute assembled a miscellaneous group of people from both sides of the Atlantic to discuss a working paper by Professor Torsten Husen, intended to lead in due course to a monograph on "The Future of Schooling". This will take the form of a general review of the state of formal education in the developed countries, with all the "where do we go from here?" questions thrown in.

There were about twenty participants from 13 countries—Belgium, Canada, Denmark, England, France, Italy, The Netherlands, Poland, Scotland, Sweden, United States and West Germany. Among the bunch there were two real live school teachers (from the John F. Kennedy German-American School in Bonn, and a young lady from Belgium (Professor Henri Jansen), an ex-commissioner for education for the United States (Mr. Frank Keppel), senior civil servants from education ministries in Denmark and from research professors and lecturers in education, economics and sociology from both sides of the Atlantic, including Professor Vincenty Okon, from Warsaw, and a kind of joker in an otherwise serious pack, the editor of *The Times Educational Supplement*.

Dr Holmuth Becker, director of the Max Planck Institute für Bildungsforschung, who occupies a position of unique influence as an elder statesman of West German educational policy-making, presided over the whole proceedings, in the role of an energetically partial chairman.

### Where next?

Meetings of this kind are more interesting for the general indications they offer of movements of opinion within a fashion-conscious educational international freemasonry, than for decisive argument or binding insight.

The mood was set by Husen's paper. The 1980s were years of hope. By the early 1970s those hopes had been dashed. What went wrong? How much of the earlier planning was naive and misdirected? What will the next turn in the road bring for education?

The title was "The future of schooling", but this was not another exercise in long-range prediction.

What interested the participants was the next five to ten years, the kind of perspective which affects the educational lifetime of those already in school.

If you had to pick one dominating concern which seemed to be defined on all sides, it was the need to assess the meaning of the present economic recession and the slow climb out of it, as it affects the links between school and work.

Perhaps it was a reaction against the excessive optimism of the 1960s which hoped that economic growth and extended education would solve a myriad of puzzles. Now, not only did people expect much slower economic growth, but there was also the suggestion that there would not even be a comparable expansion of "graduate-type" jobs. The massive extension of higher education had produced new generations of professionals and semi-professionals of one kind and another. Jobs which had not hitherto required higher education had been upgraded and filled by products of the enlarged system. But now, the suggestion was, this over-division of labour will not require more skilled graduates, and the social services, which might require some, are being curbed in most of the countries represented at the Berlin meeting.

This was the theme of 1976. Even a year or two ago it would have been discounted by the optimists who saw the present difficulties as a temporary interruption of a long-term expansion. It carried with it some interesting overtones about the links between education and society as a whole, including, for some, a new, more radical, neo-Marxist critique of attempts to achieve wider social aims (of equalization or more open access to educational opportunity) as mere tinkering with the superstructure, while the fundamental relations of



"Please, sir, my mum wants to know when Mrs Williams starts teaching us."

Individuals engaged in the production of goods and services remained unchanged.

Even those who rejected the element of determinism built into the neo-Marxist package, accepted that the next phase will be shaped by the conflict and contradictions which are likely to follow from educational policies based on a promise of open access to wider opportunities, and employment realities which make this promise impossible to fulfil.

Already it seems that many self-connecting mechanisms are coming into play. In Britain there is what seems to be a spontaneous slackening of demand at the top of the secondary school and for higher education. This seems to be matched in more closely planned education systems in eastern and western Europe by deliberate moves to curb the inflation and universal limitation on university admissions where hitherto the secondary school leaving qualification has guaranteed entry.

This was widely seen as a "cooling out" process, to be set along with a broad-based concern to deal with the "vocational" and "training" arrangements, and there was a suggestion that some might otherwise persevere in professional status to be content with lower level work.

### In Carter's train

One of the most interesting of the participants (though one who listened much more than he spoke) was Frank Keppel. Now in his late sixties, he has just returned after 10 years in what the Americans call the corporate sector. He played a leading part as Commis-

sioner for Education, first under Kennedy and then under Johnson, in pushing through the policies of active federal intervention in education which reflected the high hopes of the Great Society.

He was fired by Johnson, as he now puts it, "quite rightly", having got into a direct conflict with Mayor Daly, of Chicago, over segregation. As an unrepentant moderate, he then went on to put his money where his mouth was, and plunged into the "learning industry", heading a multi-million dollar attempt to develop and market educational technology. The bubble burst, and the learning industry learnt to be content with more conventional forms of educational publishing.

More recently, with support from the Spencer Foundation in Chicago, he has been working on an educational agenda for 1977, gathering together a group of academics, most of them under 40, to draw up the outline of an educational programme against the day when the federal Government is again ready to take a positive interest in the subject.

What gives the exercise more than academic interest was the news, the other day, that he has been appointed Jimmy Carter's adviser on education. If Carter wins, Keppel will certainly be back in Washington.

A man of lean and humorous character, he is exactly the kind of civilian, yet committed, man of affairs who is rare on the educational scene in Great Britain. With his patrician East Coast background, and a career which has moved easily in and out of university, government and business, it is difficult to think of any British public figure who could be called his counterpart.

### Election time

With a growing suspicion that the Presidential election is going to be a very close-run thing (and one or two Democratic voices in Berlin coming round to predicting a Ford victory) were a good deal of talk about the elections in West Germany and Sweden also. Dr von Dohnanyi came hot-foot from a big three-day election rally. It seems that the biggest thing the Social Democrats had in fight is a mood of frustration among the electorate, flattered by those who tell them that they work hard, accept economic disciplines and fight inflation, while everybody else sponges on German affluence. Rational or irrational, this offers plenty of scope for party propaganda.

As for the Swedes, who went to the polls on Sunday, was obvious that Olof Palme was vulnerable. Even some of his long-term supporters are prepared to say that a party which has held office for 44 years might benefit from a period

in opposition. In the event, the vote showed that enough people open up a new era in Swedish politics.

### Böhm's Mozart

One of the Berlin treats is a visit to the Philharmonic Hall, in Charlottenburg, for a concert of the Berlin Philharmonic in a scrupulously exact performance of Mozart's thirty-ninth, fortississimo first symphony.

A full house listened with Germanic intensity, and at the end, with the venerable maestro, Partington made the slightest of movements, a flick here and there, barely perceptible, but more sudden animation was required, he quivered at the knees like a cat about to pounce, and the effect was electric.

It was strange to see a major international orchestra with an all-male complement of players, and an all-male complement of instrumentalists.

Stuart Machure

### NEXT WEEK

George Walker on teacher participation in school decision-making.

Frances Staden on the Hanserstrasse Tenement Project. Words from another world: Elizabeth Berron on the study of ancient history. Robert Dorr on the philosophy of education: Ralph Berry on Shakespeare; A. M. Ward on the documentary film; Frances Farrer on paperbacks; geography: J. P. Exton; Mathematics.

### TES airmail rates

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# THE TIMES Educational Supplement

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At the Labour Party conference in Blackpool, Mrs Shirley Williams, the new Education Minister, has said she wants a survey of comprehensive schools to see which systems are working best. She also spoke out against secrecy in the DES, and in favour of some parental choice. David Dickson reports.

## End secrecy in DES says Mrs Williams

It was strange to see a major international orchestra with an all-male complement of players, and an all-male complement of instrumentalists.

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Unemployed teenagers in Dortmund. Like thousands of young people throughout Europe their long term chances of getting a job are poor, according to an O.E.C.D. report. Page 6. In Britain a Labour Party debate Page 5.

### Apology

We apologise to all those who were not able to get the TES last week. Only a small number of copies were printed because of unofficial industrial action by SOGAT members in *The Times* day publishing chapel. We are reprinting some of the articles from last week's paper in this edition.

### Special pleading

More than 100 former direct grant schools are surviving their year of independence. But they are soon to ask for Government money for an assisted places scheme, it emerged at the Headmasters' Conference, Philip Venning reports. page 12

Stephen Cohen reports from the Labour conference. -- page 5

### Selection saga

Tameside Education Committee approve reports on their contentious selection procedure. But questions are already being asked about next year. Stephen Cohen reports page 3

### Milroy's mix

The first director has been appointed to a newly-constituted Institute of higher education in Gloucestershire. But there are six colleges, in two towns several miles apart, and it has proved impossible to combine them legally. Will he make it work? Bert Lodge reports. page 8

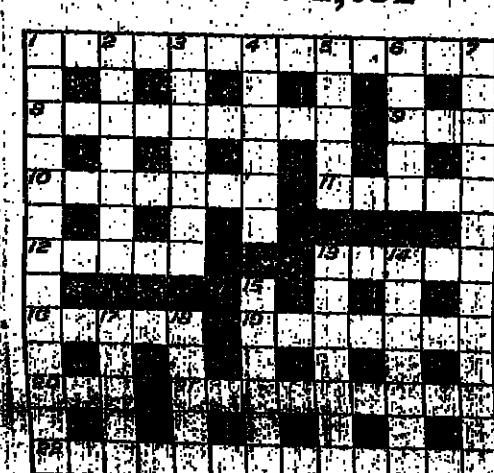
### The bully girls

Bullying, traditionally a sport reserved for boys, is now being taken up by girls. Is it a new manifestation of sex equality? Betka Zamoyka investigates. page 15

Features, pages 25-27  
George Walker on teacher participation in decision making; a teenager in hospital reflects on his future.  
Resources, pages 34-39  
For school publishing: Harold W. Appleton and Keith Sturges on science and maths games; Carolyn O'Grady on the Design Council.  
Talkback, page 40  
Peter Shilton on harvest festivals; Robert Watkin on Carolyn M. Furusawa on A level results in the ILEA.  
Arts Reviews, pages 102-103  
John Pater on theatre; Patrick Carney on opera; Heather Neil and David Self on theatre and education; Carl Stein on film in political science; Gillian Thomas on handicraft.

Classified ad index  
TES Extra  
Priorities in mathematics. pages 47-58

### Crossword No 1,052



- ACROSS
1. Out night eyes
  2. Royal House (5)
  3. Australian island
  4. Indicative of a doctor with legal status
  5. Monolingual (7)
  6. Relatively impressive (11)
  7. Only (5)

### Down

1. Plot about a little country house (7)
2. Describes one's pocket money (7)
3. Hot put cover (3)
4. On about to wait in the same place (6)
5. Clerk who lays down the law (5)
6. For Ostia speaking (3)
7. Involves cooperation of two four-wheelers (6)
8. Fire with a provisos musically (7)
9. She persuaded many to attend to a child (11)
10. Current to the left (6)
11. Are Aahs your vote (5)
12. Does it both a dramatic figure at the end of a (7)
13. Solution to Puzzle No 1,051
14. On terra firma in a land flowing with milk and honey (6)
15. Late car for the island (7)
16. Spanish fallow of degrees (11)
17. Original fisher (9)
18. One in the eye (4, 2)

### Chess

Look to the centre  
There are certain eternal verities in chess which any and every player must flout at their peril. One is concerned with the necessity of development and the other is the control of the centre. Both seem so obvious as to be self-evident, and yet it is surprising how often players are led astray by superficially attractive lines that promise quick results. These quick results do come—but not in the way originally envisaged.

The first of it is that, if only players have been simply told to mind their centre, they would have won through all sorts of complications, swarms, traps and learned book lilies to ultimate advantage and victory.

position after Black's 11th move



White: 1. Kp2-K3, 2. Kp3-K4, 3. Kp4-K5, 4. Kp5-K6, 5. Kp6-K7, 6. Kp7-K8, 7. Kp8-K9, 8. Kp9-K10, 9. Kp10-K11, 10. Kp11-K12, 11. Kp12-K13, 12. Kp13-K14, 13. Kp14-K15, 14. Kp15-K16, 15. Kp16-K17, 16. Kp17-K18, 17. Kp18-K19, 18. Kp19-K20, 19. Kp20-K21, 20. Kp21-K22, 21. Kp22-K23, 22. Kp23-K24, 23. Kp24-K25, 24. Kp25-K26, 25. Kp26-K27, 26. Kp27-K28, 27. Kp28-K29, 28. Kp29-K30, 29. Kp30-K31, 30. Kp31-K32, 31. Kp32-K33, 32. Kp33-K34, 33. Kp34-K35, 34. Kp35-K36, 35. Kp36-K37, 36. Kp37-K38, 37. Kp38-K39, 38. Kp39-K40, 39. Kp40-K41, 40. Kp41-K42, 41. Kp42-K43, 42. Kp43-K44, 43. Kp44-K45, 44. Kp45-K46, 45. Kp46-K47, 46. Kp47-K48, 47. Kp48-K49, 48. Kp49-K50, 49. Kp50-K51, 50. Kp51-K52, 51. Kp52-K53, 52. Kp53-K54, 53. Kp54-K55, 54. Kp55-K56, 55. Kp56-K57, 56. Kp57-K58, 57. Kp58-K59, 58. Kp59-K60, 59. Kp60-K61, 60. Kp61-K62, 61. Kp62-K63, 62. Kp63-K64, 63. Kp64-K65, 64. Kp65-K66, 65. Kp66-K67, 66. Kp67-K68, 67. Kp68-K69, 68. Kp69-K70, 69. Kp70-K71, 70. Kp71-K72, 71. Kp72-K73, 72. Kp73-K74, 73. 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## Chairman pulls out of Tyndale probe

by Mark Jackson

The Inner London Education Authority's William Tyndale disciplinary inquiry was due to go ahead today under a new chairman after the last-minute resignation of Mr Michael Howard.

On Monday an attempt by the six teachers, who are facing disciplinary charges following the public inquiry into the junior school, to get the High Court to unseat Mr Howard from the Tribunal failed. The attempt was based on political grounds and because Mr Howard is a member of the same chambers as Mr Robin Auld, QC, who headed the inquiry.

The authority's counsel told the judge that it was important that the proceedings should be formally opened on Wednesday to deal with procedural matters. The hearing of evidence will not take place for another three weeks.

But on Wednesday Mr Howard instead of opening the proceedings arrived at County Hall to announce that he had resigned because he was still engaged in a protracted public inquiry. He emphasised that his other commitment was the sole reason for his decision.

Mr Gary Flather, a barrister from the same chambers—from which all the ILEA panel of inquiry chairmen is drawn—was appointed in his place.

Mr Terry Ellis, the school's head, Mr Brian Hadow, Miss Sheila Green, Mrs Jackie McWhirter, Mrs Dorothy McColgan, and Mr Steve Felton, are all accused of indiscretion in connection with a staff strike in September 1975. Mr Ellis and Mr Hadow are also charged with inefficiency, and Mr Ellis along with misconduct.

On Monday, Mr Stephen Sedley, who had represented the six teachers during the 14-week public

inquiry into the breakdown of the school, tried to persuade the court that the authority's staff code did not allow the education officer, Dr Eric Brault, to act as complainant. That role was incompatible with the administrative duties it imposed on Dr Brault to serve as an impartial "rapporteur" to the tribunal, and to present the facts objectively.

This code furthermore provided that two members of the tribunal and its clerk be appointed from the education officer's staff. "The authority should not be judge in its own cause," said Mr Sedley. Mr Gavin Lightman for the authority said that the authority was prepared to appoint another clerk to the tribunal in place of Mr Anthony De-Keyser, head of ILEA's disciplinary section, TS 13.

On Tuesday the school's subcommittee decided to take no action on a formal complaint from Mr Ellis and his colleagues against Dr Brault for his part in the dispute over the school. The committee said they had already asked Dr Brault to examine the parts of the Auld report bearing on the senior administration, which they considered included the education officer himself.

The subcommittee made its decision following a report on the teachers' complaint by Sir James Swaffield, clerk to the authority and director-general of the Greater London Council.

The subcommittee said it was satisfied there was no case for investigation and a view to disciplinary proceedings against Dr Brault.

● The National Union of Teachers has decided to refuse legal aid to the six Tyndale teachers.

The executive said the teachers had ignored union advice and instructions to return to work.



Mrs Mary-Lou Clark succeeds Mr Howard as chairman of the ILEA's schools subcommittee. He resigned following the Auld report on William Tyndale School.

## Staff ratio up as rolls fall

The Inner London Education Authority's education committee is to be asked on Tuesday to approve a plan to keep the same number of teachers next year in spite of falling rolls.

The plan—which was disclosed in last week's TES—will mean that 595 teaching jobs will be saved. It is likely to arouse considerable comment in other parts of the country, since Inner London is known already to have staffing ratios well above the national averages for primary and secondary schools.

The Tories will not oppose the proposal outright. They have put down an amendment calling for the authority to reduce expenditure in real terms "but in such a way as not to inhibit an improvement in basic educational standards".

## Low fees uphold quality

The 119 direct grant schools that have gone independent have been able to maintain their academic entry standards by admitting a quarter of their new pupils at reduced fees. These are the preliminary findings of a survey due to be discussed today by the Direct Grant Joint Committee.

The survey, by Mr Peter Mason, High Master of Manchester Grammar School, looks at what has happened to 104 of the 119 direct grant schools that chose to go independent when the direct grant was withdrawn this year.

The loss of the grant has given many local authorities the excuse

to cut the number of places for entry to their schools. The local authorities have been able to maintain their academic entry standards by admitting a quarter of their new pupils at reduced fees. These are the preliminary findings of a survey due to be discussed today by the Direct Grant Joint Committee.

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The loss of the grant has given many local authorities the excuse

## High salary bills may 'wreck non-state schools'

Spending salary bills are a far greater threat to non-state schools than the "full frontal attack" of the comprehensive reorganization programme, Professor J. J. Scambrook, pro-vice-chancellor of Warwick University, told a conference of Catholic head teachers in London this week.

He had no doubt that the Houghton Report recommendations were intended to present the independent sector with as near lethal a salary bill as possible. "It is difficult not to suspect that the massive surge in teachers' salaries, which was combined with a huge lump of back pay, was an indirect, but none the less dangerous, way of destroying the independent school."

"Of course I am delighted that teachers are getting paid better, but these salary bills, which have to be passed on to parents in the form of soaring fees, would seem to be the quickest way to wreck non-state schools."

The conference, which was described as "unique", was attended by 200 head teachers from the diocese of Westminster. Its organizers

said the purpose of the conference was to hold back the Government's "full frontal attack" of the comprehensive reorganization programme, Professor J. J. Scambrook, pro-vice-chancellor of Warwick University, told a conference of Catholic head teachers in London this week.

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## Two in five leavers now on the dole

The humiliating plight of unemployed school leavers was spelled out to the conference by Heather Scallan, a young delegate from a school in Manchester.

Two out of every five school leavers had been thrown on the dole, she said. This brought accusations of being "work-shy and lazy" and of "tramping through the streets looking for a job". Unemployment often led to family tensions and break-ups. "It's bad enough to be thrown on the scrap heap at 16, but think what it is like at 16, at the beginning of a young life."

Miss Rawling accused some employers of holding back jobs for "leavers of the Government's show". She said that even when jobs had been taken up, only 30,000 of a strong and desperate looking independent school leaver would be needed. The job creation schemes and special threat of temporary employment subsidies like "giving an aspirin to almost pathological someone with cancer". The youth independent schools were angry, frustrated and undisciplined.

The speaker, Mr Hugh Scallan, president of the Amalgamated Union of and specifically Engineering Workers' opened the were not. "Now a debate on unemployment with a become allies. We must urge drastic measures. Catholic schools are expressing deep concern and the disturbing fact of a systemic collapse of birthrate in the last 20 years was without precedent."

Mr Scallan said that the Government's "full frontal attack" of the comprehensive reorganization programme, Professor J. J. Scambrook, pro-vice-chancellor of Warwick University, told a conference of Catholic head teachers in London this week.

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Labour Party conference at Blackpool. Stephen Cohen reports



## Claim on class sizes 'rubbish'

Mrs Shirley Williams, the new Education Secretary, was given a scottish reception this week when she told delegates to the Labour Party's annual conference that class size was not the answer to the problem of school leavers.

She said that the Government's "full frontal attack" of the comprehensive reorganization programme, Professor J. J. Scambrook, pro-vice-chancellor of Warwick University, told a conference of Catholic head teachers in London this week.

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## Cuts: support for rebel councils

A move to call on the Government to stop further cuts in public services was defeated, but the conference declared its total opposition to the present and proposed cuts in the social and educational services. The successful resolution called for a "renewed view that public spending on houses, schools, hospitals and health has to be cut back in order to finance higher profits in the private sector."

The conference declared its support for the Education Secretary, Mrs Williams, who had been no determination to get the Education Bill through by October. "Our determination is absolute to get this on the statute book."

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## Schools Council takes industry to the classroom

by Virginia Makins

The Schools Council's £251,000 industry project gets off the ground this week with the appointment of Mr Martin Lightfoot as director. He, and an evaluator who will be appointed shortly, will begin with "an initial period of diagnosis" before organizing local consortia of teachers, trade unionists and managers.

The basic aim of the project is "to introduce into the education of young people, from the age of 14, an awareness and understanding of industry and its contribution to social, economic and cultural life". The project will run for four years.

The project started when the Trades Union Congress approached the Schools Council with an idea that they should produce "authentic materials" about trade unions. Sir Lincoln Ralph, the chairman, quickly called in the Confederation of British Industry to discuss wider possibilities. The Schools Council has staked a great deal on the project and many people involved see it as a test of the council's expertise and usefulness.

Discussions led to a planning group, which sketched out the project's shape for the project. It should not simply produce materials, but "involve people from both education and industry in the processes of change and development", and that an evaluator should be appointed from the start who "would work alongside the project but be responsible to a wider range of interests than the project alone."

Mr Lightfoot, who is 34, re-

signed recently as deputy education officer at the Inner London Education Authority for personal reasons. Before he went to ILEA he was managing director of Penguin Education until it was axed by the Pearson-Longman group.

He said that after the initial period of searching out good examples of existing practice, and doing a great deal of listening, his preliminary and hypothetical idea was that the project should concentrate on four or five centres: London, with its rapidly changing employment profile; a northern industrial city, perhaps Manchester; a town where the employment prospects of school leavers are fairly clear cut—somewhere like Swindon or Peterborough; and a modern industrial estate.

One thing he would like to investigate is the effect on a school—good or bad—when teachers have a clear idea of the employment destinations of pupils. He also wants to get away from old stereotypes of industry—the dark, smoky mills of the industrial revolution. Many teachers have been brought up to share that image: "the teaching profession has generated itself out of a quite different background than that of modern industry."

But above all he feels the project is extremely important as one way for education to restore public confidence in its activities. "There's a real danger that the industrial world—unions as well as management—may start calling the education system bluff. They will say: 'OK, we've gone along with you, with your comprehensives and your new examinations. But it isn't actually working...'

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## PERSONAL COLUMN

Maurice Peston  
Compliments  
all round

I was sorry to see Gerry Fowler dismissed from the Government. He had done an excellent job as Minister of State for Higher Education, which only goes to show that doing a job well is no protection against the sack. (A similar comment applies to Reg Prentice a year ago.) All that can be said is that plenty of ordinary people get fired in similar circumstances. To take a pertinent example, good teachers can be made redundant, and recent graduates from the colleges are currently being prevented from showing what good teachers they might be. So there is no harm in members of Parliament occasionally having the same experience.

But having made that point, it is worth noting that Gerry Fowler did have a number of important credits to his account as minister. My own view is that the funds found for supporting the adult literacy scheme might well have not been forthcoming if he had not been involved at the right time. In particular, their dispensation via a resource agency was his idea. He also had a major role to play in reforming student grant regulations, especially the removal of the extra sum payable to Cambridge undergraduates, and the ending of the anomaly whereby receipt of a minimum maintenance grant implied the payment of full fees.

On the question of the colleges, he was the first to face up to the problem of reducing teacher training and to diversify the curriculum. In my opinion, the specific cases he was involved in were all dealt with as efficiently and fairly as possible. In addition, the committee he was about to head would have made considerable progress in the highest education sector. Since then, the committee has been very much more active. Gordon Oakes, gives them high priority. Of course, one wishes him well in this case, but to one, who has achieved as much as his predecessor, it is not surprising that he should be so active.

Similarly, one looks for great things from the new Secretary of State. I think the world owes him a debt. I also wait eagerly for his choice in education has risen in the last few years.



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## Europe faces the challenge of youth unemployment

Youth unemployment is surfacing as an area of major educational concern both at the EEC Commission in Brussels and at the Organisation for Economic Co-operation and Development, to which 24 Western industrialized countries belong.

Mrs Shirley Williams will get her first official taste of Europe as Education Secretary when she attends a special meeting of EEC education ministers in Brussels next month to discuss a series of urgent recommendations for action from the EEC's Education Committee. The meeting has been provisionally fixed for November 29.

And in Paris OECD education and manpower planning experts have been working for most of this year on a report into the plight of young job seekers. Although the report is not due to be published until January the picture it paints, particularly of long-term prospects, is gloomy.

Of special significance is the finding that after each economic recovery the youth share of unemployment settles down at a higher level relative to total unemployment than in the previous recovery.

In the United States, for example, unemployment was 5.6 per cent in 1954, with 12.6 per cent of teenagers out of work. In 1970, when the overall level was again 5.6 per cent, the figure for young people had climbed to 16 per cent.

Common Market statistics, while not showing a relative worsening in the position of the young, confirm that the under-25s are being more severely affected. From 1973 to late 1974 youth unemployment in the Nine rose by 49 per cent as against a 32 per cent increase overall.

Both EEC and OECD education officials freely admit that they are not in the business of looking for magic formulae to ease youth unemployment. With almost all the countries of the West tolerating high unemployment as part of the fight against inflation, that would clearly be out of the question.

They strongly reject, however, the view embodied in a recent meeting of the European Ministers' Federation, that the education sector should stand by and do nothing. That meeting argued: "If the youth unemployment situation is to be altered, the politicians will have to change their policies."

Rather, within the framework of continuing and encroaching structural unemployment, ways should be sought of altering the psychological effects on the young. The OECD report warns starkly that much of the violence and crime of American society can be directly attributed to joblessness.

The EEC Commission feels, too, that its role should be to help the generation caught in the treadmill that when the next upturn comes people who missed out on employment when they left school will be in a position to compete for jobs with the then current crop of school leavers.

The view from Brussels, as one senior Commission official put it, is that "we must prepare children to be able to jump on the bus as soon as it arrives."

At the same time, the Commission believes that there are a number of steps which can be taken to ease unemployment when it is not, so to speak, government-planned.

By making curricula more relevant, for example, mismatches between output and need can be corrected. The Commission points to areas of high unemployment where there are nonetheless plenty of openings for young people.

Unemployment indices for young people and all workers in the EEC countries

| Countries      | Age         | 1973 | 1974 |
|----------------|-------------|------|------|
| BELGIUM        | 15-20       | 100  | 100  |
|                | All workers | 100  | 100  |
| GERMANY        | 15-20       | 100  | 100  |
|                | All workers | 100  | 100  |
| FRANCE         | 15-18       | 100  | 100  |
|                | All workers | 100  | 100  |
| ITALY          | 15-21       | 100  | 100  |
|                | All workers | 100  | 100  |
| NETHERLANDS    | 16-19       | 100  | 100  |
|                | All workers | 100  | 100  |
| UNITED KINGDOM | 16-18       | 100  | 100  |
|                | 18-20       | 100  | 100  |
|                | 20-25       | 100  | 100  |
|                | 16-25       | 100  | 100  |
|                | All workers | 100  | 100  |

Similarly, if employers thinking of moving to or investing in a particular area know in advance that children in that area were being taught skills relevant to their needs, they would be that much more inclined to take the risk.

Significantly, the action programme which the EEC education ministers will be asked to endorse has been, according to Commission sources, enthusiastically backed by the DES.

Whitehall has apparently played a positive and constructive role in helping to draft the proposals, and Brussels officials claim to be noticing a shift in British attitudes towards active participation.

There is a general welcome, too, for the youth unemployment measures which Britain has been taking. One Brussels educationist described Whitehall initiatives as "high average". In particular, he praised the work of the Manpower Services Commission. Britain, along with France, was also seen as strong in linking education and careers guidance compared with the rest of the Community.

One area of key weakness found by the Education Committee in preparing the action programme was the lack of vocational provision throughout the Nine for girls. Other very poorly served groups were the handicapped, migrants and children living in underdeveloped regions.

It is likely that the ministers will be asked to adopt at national level special measures to alleviate the plight of these groups.

Other items on the programme are expected to deal with the need for more vocational guidance, for "relevant" curricula and for the provision of in-service training of teachers about "the world of work". The need for better second chance opportunities for those who have already left school may also be stressed.

The Commission is hoping, too, that the ministers will approve action at EEC level, using EEC funds. The emphasis of such action would be strongly on a package of education and training pilot projects rather than any attempt to institute an employment creation programme in the Community.

In OECD education circles the thinking is also that, although not a lot can be done to disperse the army of young unemployed, there is great scope for making sure that it is not an army of unemployables. Here again, OECD officials praise what they call the "empirical approach" of Britain in its especially difficult economic circumstances. The combination of education and training is thought to have succeeded. Career guidance is seen as much more than simply a means of helping young people choose a career.

Especially noted in Paris is the

fact that, although withdrawn from education funds are still being used for training purposes, it is felt, to indicate making a real effort for the next upturn as far as employment is concerned.

On the other hand, older workers in the short term and long term are being hit by the friction in the labour market. In the same way, guaranteeing young people a proportion of jobs to reinforce in the young that they are able in artificial circumstances might also be a priority to the extent that the report argues that lies should have been taken.

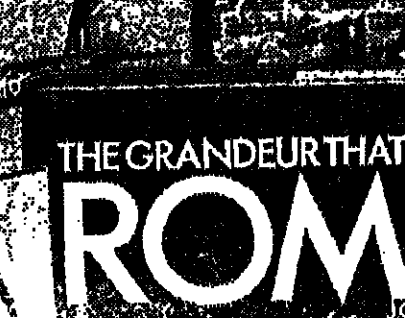
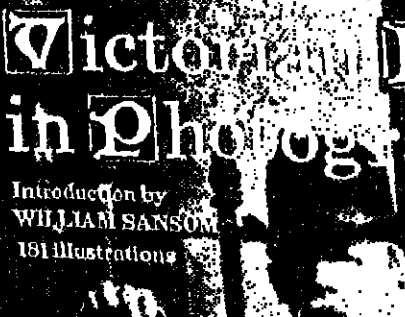
It favours such exemptions for the best way of encouraging employment, while at the same time warning that training any work which is a regular employment will be rejected by young people.

Of unemployment, says scathingly the looked upon as a "sure" and as a "case of society's failure to employ or a failure with the potential of employment."

One problem which feels should be tackled is the redesigning of secondary schools not going out to vocational training which would be a natural and not a further diploma.

The OECD report everyone is giving a much better and significant materialism, the unrest are likely than hitherto.

But it is felt worth running unemployment, a period of unemployment more unemployment and unemployment.



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## Bristol play bus on rocky financial road

Bristol's year old play bus will be off the road by Christmas unless it gets a grant from Avon County Council. This was the warning proclaimed by a procession of multi-colored buses in the city at the weekend.

Fifteen buses from all over Britain converged on the city for the Play Bus Association's national two-day rally and to draw attention

to the plight of the local project.

"We are just running out of money, and in the winter it is too difficult to do our own fund raising," Mrs Janet Matthews, one of the play bus workers, told a conference held in connexion with the rally. An application for aid is to be considered by the county council's social services committee within the next two months.

Other play bus workers

in stories. At least one said, had never had a grant because of lack of money.

But the play bus workers, expanding the conference into the work of the country, there are now about 100 in the country. They are now being encouraged by local councils and urban aid grants.

## SA courses could be too narrow

Sue Reid

Gerry Fowler, the former minister of state for higher and further education, has joined the call for stronger links between the Department of Education and Science and the Department of Employment.

He told a key policy-making conference of the Association for Research in Education at Nottingham University at the weekend that there had been a switch of resources in Britain away from education towards the work of the Department of Employment.

It was, however, important to produce current education policy into the work of the Government's Training Services Agency, now administered through the Manpower Services Commission by the Department of Employment.

In Britain and abroad it was necessary to promote a coming together of education and training ministries.

"My own view," said Mr Fowler, who is Labour MP for Wrexham, "is that if we fail to introduce education philosophy into the TSA's work we will have very narrow training courses. I would like to see the Manpower Services Commission suspended between the DES and the Department of Employment."

Substantial progress had been made towards the development of a National Advisory Council for Adult and Continuing Education. It was expected to be created this autumn, not too far from the planned, and would be an integral part of the development of continuing education over the next few years.

But the conference had doubts about the proposed title of the new body and its role. The Russell report had suggested that it be called "The National Development Council". The present by the association said: "The proposed council which was to be set up to advise ministers about the future of adult education."

There was evidence that significant development could take place with a small increase in new resources. The association hoped the power to seek financial resources from outside the national education budget.

It called on the DES to produce a more positive and challenging document than its discussion paper on "The future of adult education". The proposed council which was to be set up to advise ministers about the future of adult education.

The association, which was formed a year ago, organized the conference to formulate policy for the next 12 months. Proposals by four main discussion groups were accepted for consideration by the executive.

They called on the association to encourage the development of local education authorities for adult education, in line with the Russell report, and demanded that a special working party should study local development councils which were already in existence.

One of the first tasks of the proposed National Advisory Council should be consideration of an open college system based on the contribution of existing institutions and agencies. It should also advise ministers of the most appropriate methods of introducing a system of adult education leave and stimulate informed public debate on it.

Proposals that every person should be entitled to 16 years' full-time education and that a flexible system of full and part-time study should be available to all students were also accepted.

Establishment of an education guidance service, with trained counsellors, and the appointment of recurrent education officers in local areas to publicize opportunities, will also be discussed by the executive.

THESE

## No cash for Johnnies who won't stay home

by Frances Stadlen

Young homeless people who drift to London in search of jobs and the bright lights will get no financial help.

The Government says that although the need to spend more money is clear and urgent there is no hope of finding any. A letter from Mr Eric Deakin, Under Secretary at the Department of Health and Social Security, to voluntary organizations does say, however, that the department will do what it can to help the young homeless without spending money.

His decision has been greeted with bitter disappointment by voluntary bodies like the National Association for the Care and Rehabilitation of Offenders and the Campaign for the Homeless and Rootless.

Government for more than a year to discuss the problem.

June Lightfoot of CHAR said Mr Deakin's response was not good enough. She called it a "delaying tactic" and said some of the most needed reforms were being avoided by a Government that was not prepared to tackle bureaucratic difficulties.

One of the main stumbling blocks was lack of coordination between departments, which meant

departmental boundaries needed to be broken down. This was too much for the Government to handle, she said.

Roger Davies, the self-styled voluntary worker who was found guilty of burglary with young people in his hostel, would be out of prison soon, she said. "What has changed to stop him starting up again?"

The pressure groups are particularly disappointed because the interdepartmental working party on which they were represented demanded immediate action to provide jobs and hostels for the young people highlighted in the television programme, *Johnny Go Home*. In a report produced last month it also called on schools and careers advisers to do more.

This week the pressure groups have been given more fuel with the publication of another report by the Scots Group of the West End Co-ordinated Voluntary Services, *Entitled Young Scots in London*. It tells of a threefold increase in the number of young Scots coming to London.

At least 14 new Scots are being seen by the West End agencies every week and this number is expected to rise with increasing unemployment. The migrants tend

to come from Strathclyde now rather than just Glasgow.

In Glasgow, where only 10 per cent of 16 to 19-year-olds have been found work this year, the reasons given for the drift to London include constant harassment by the police, unemployment and lack of social life.

"The response received from the Glasgow-based groups was one of complete despair," the report continues. "It was felt that the Government, who had the power and resources to remedy the situation in Scotland, did not care what happened in Glasgow—or in Scotland for that matter."

"Concern seemed to be directed primarily at South-East England."

The Scottish community workers felt powerless to do anything. They were finding their brief more and more difficult to carry out because of the decline in available housing, jobs and other resources.

The only youth information centre in Glasgow, known as GRYP, is now threatened with closure because its money runs out in three weeks' time and Strathclyde Region is unlikely to give it the £8,500 it wants for next year.

It was set up two-and-a-half years ago specifically to give information on London, and it has now expanded into local advice and counselling centre.

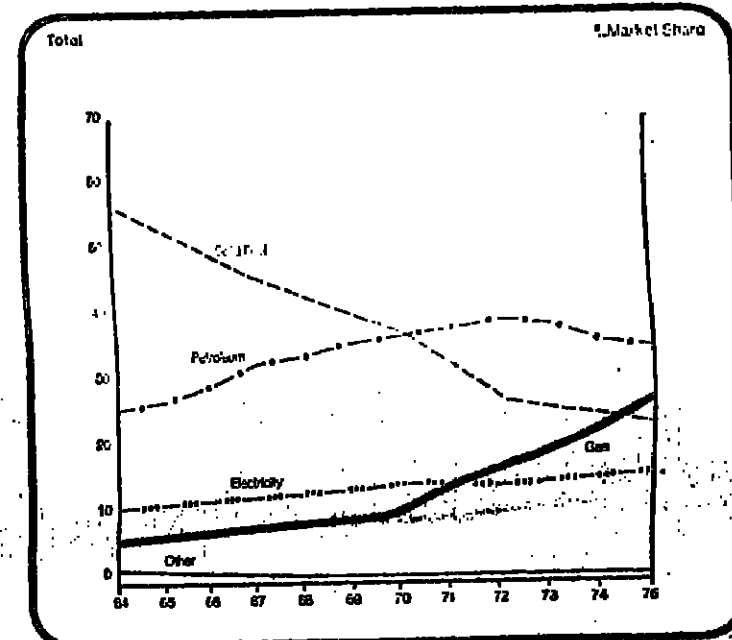
Patch-up jobs are not the answer. They only relieve symptoms. What is needed is new legislation guaranteeing the rights of the homeless and obliging local authorities to house them.

The Training Services Agency, Employment Services Agency and Supplementary Benefits Commission should do more for the 16 to 19 age group, and job creation schemes should concentrate on long-term employment, the report recommends.

Scotland should get more resources to help industry and create jobs, and housing and social services should be improved to give people a real choice of staying at home. There should also be an information booth near Glasgow central station and if a Scottish Assembly were set up, it should give the problem greater priority than it now receives from Westminster.

*Young Scots in London*. The Scots Group, WECVS, 57 Chilton Street, London NW1.

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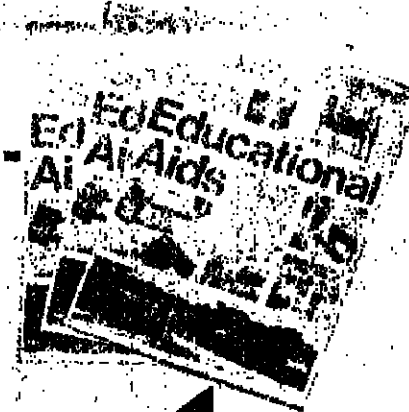
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## Science diary

by John Maddox

## Shadow of an atom age gunman

What the Royal Commission on Environmental Pollution has to say about the future of nuclear energy in Britain is unhelpful, but its opinions could have been even more unhelpful, and we should all be grateful for that.

In the end, the commission concedes, if only reluctantly, that the present operations of the nuclear industry entail no substantial hazard for the British population. Moreover, the commission does not seek to change or even delay the plans (such as they are) for building new nuclear power stations. In particular, it agrees that a full-scale fast reactor should be built.

The nub of its conclusions, however, is that a "major commitment" to nuclear power should be postponed for as long as possible.

partly so that the potential of alternative sources of energy in bulk can be investigated.

This conclusion springs from fears of what a world with huge stocks of plutonium would be like; the commission is more alarmed about the clandestine use of nuclear materials in political subversion and the proliferation of nuclear weapons in military arsenals.

The commission's anxieties are widely shared, of course. Although the risks of the clandestine manufacture of nuclear weapons have been hopelessly exaggerated in some quarters in the past few years, they cannot be entirely forgotten, and much remains to be done to ensure that all countries using nuclear power safeguard plutonium (and other nuclear materials) properly. The dangers of proliferation are similarly haunting.

The point, however, is that no amount of self-restraint on the part of the United Kingdom will help to take the edge off what are, in their essentials, international problems. Some, indeed, might argue that the rapid development of a plutonium industry in Britain might serve as a model for the proper regulation of this dangerous but not uniquely dangerous substance that others make them follow. Whatever the faults of the British nuclear industry, after all, everybody (the Royal Commission included) seems to agree that its self-regulation and control constitutes good practice.

This is of course the sense in which the commission's report is likely to be unhelpful. First, it will make even more uncertain the climate in which decisions must be made about the future of the nuclear programme. Yet too much



time has been frittered away already.

Secondly and ironically, concern for these grand but vague themes of subversion and proliferation might distract attention from the most important policy on the reorganization of colleges of education.

Although I am one of those who consider the chance of such a part in this "major commitment" to nuclear power, however, in the assessment of standards of day-to-day planning and education, the intention whether or not to give a lead to the education service.

## Too secretive and too slow to give a lead

### —MPs' verdict on the DES

by Philip Venning

The Department of Education and Science is too secretive and too slow to give a lead to the education service, according to an all-party group of MPs whose report was published on Wednesday.

But the report, by the education subcommittee of the Expenditure Committee, dismisses many of the complaints about the department made by expert witnesses earlier this year and by the Organization for Economic Cooperation and Development in 1975. For example, it concludes that the DES did all it reasonably could to publicize its policy on the reorganization of colleges of education.

The OECD criticisms which prompted the committee to look into DES policy making. And one of the committee's most far-reaching recommendations is that the Education Secretary should take a more active interest in the curriculum.

His Majesty's Inspectorate plays a part in this. "The place, however, in the assessment of standards of day-to-day planning and education, the intention whether or not to give a lead to the education service."

"We think he should be prepared strongly to encourage and participate in educational development without seeking to control it." And the relationship between the department and the curriculum would be improved if the Schools Council were reformed.

We recognize some of the problems that the council faces. The difficulties already experienced in disseminating development projects, of involving more than a few teachers in them, and of keeping a reasonable balance between sophisticated development that might need central resources and the variety of professional teachers. Clearly the introduction of more lay officials into the council's activities would increase the risk of it being ignored by professional interests. However, we cannot overlook what seems to us a strong undercurrent of dissatisfaction with the council's work.

The committee does not share the view that the curriculum is a "secret garden" which none but the initiated may enter. We note that the Schools Council has a substantial built-in majority of organized teacher interests and that there is, as it seems to us, a strong undercurrent of dissatisfaction with the council's work. The committee does not share the view that the curriculum is a "secret garden" which none but the initiated may enter. We note that the Schools Council has a substantial built-in majority of organized teacher interests and that there is, as it seems to us, a strong undercurrent of dissatisfaction with the council's work.

Indeed, in view of the very considerable influence of individual teachers and individual teachers' associations on their own classrooms, and the opportunities teachers have for discussing curriculum matters in their own professional associations, it is not surprising that the council's work is not more widely known. It is important to distinguish between the view that it is able to channel outside opinions, as well as those of professionals, about curriculum development to the schools.

As the time passes, the committee's view is that the DES ought to take a stronger interest in the curriculum and to provide the main stimulus to curriculum development. The DES are already moving towards a greater interest in standards through the creation of their Assessment of Performance Unit. We strongly believe that this unit must pursue its tasks vigorously and the results of its work should be widely disseminated to provide the school, local authorities and the DES with yardsticks of educational development and performance. It is findings give cause for concern we believe that the Secretary of State should not shirk his responsibilities.

The standing committee could appoint sub-committees for different areas of its work. These sub-committees could recruit specialists and on particular issues would consult with existing bodies such as the Schools Council and the Advisory Council on Teacher Supply and Training and with the main interest groups such as the teachers.

Reprinted from "last week's issue"

for drawing attention to the facts and stimulating, if necessary, strongly persuasive action to be taken. We repeat, however, that we are extremely anxious that none of our proposals should be construed as a desire to see any sort of political interference in the work of the classroom.

The committee is also keen to bring more outsiders into long-term education planning. The National Union of Teachers expressed the view that the education service, and what might provide the means of associating the teaching profession and local authority association with general planning activities of the DES, is a body comparable to the "Little Noddies", that exist for various industries. Several subsequent witnesses expressed their support for this general idea.

Although we were at first loath to recommend any body financed from public funds, particularly if it looked like becoming little more than a "raising shop", we do now more open review and informed public discussion of educational policy is a far more realistic alternative to a commission rather more independent of established educational interests than the National objectives were constantly reviewed. An annual review of the objectives of the 1972 White Paper might be a useful starting point.

The committee also recommends that the Education Secretary should take a more active interest in the curriculum. His Majesty's Inspectorate plays a part in this. "The place, however, in the assessment of standards of day-to-day planning and education, the intention whether or not to give a lead to the education service."

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## 'Mulley in blinkers'

Presenting the report, Miss Janet Fookes, chairman of the committee, emphasized that its criticisms were of excessive secrecy and lack of long-term planning.

The Departmental Planning Organization planned behind closed doors and nobody was taken into its confidence. "We tried to get some of the major planning papers but we got no joy," said Miss Fookes. She also told how the committee had tried to get a document from the PAR (Programme Analysis and Review) which the DES had already been released to the OECD but the Secretary of State would not release it to us," she said.

Miss Fookes said that the committee agreed with the evidence of Lord Croft, a former Minister in the DES, that the civil servants worked from given criteria and did not question them. This applied to numbers of children in classrooms and places in teacher education. "Too few specialists are brought in," she said. "We found the last Secretary of State, Mr. Mulley, totally blinkered and too preoccupied with providing resources to be able to look ahead."

mission which would have authority and resources to contribute to strategic educational planning for the education service. It should have free access to any DES facts and figures that the Secretary of State has not specifically ordered to remain confidential. It should receive plans for comment but also be free to sponsor studies and to initiate debate ranging over the whole field of educational policy. It would not attempt to do the work of the DES or of the Schools Council or of such advisory councils as that on teacher supply and training but it would provide the educational service and its clients with a second and independent view.

We visualize a main standing commission consisting of individuals appointed in their own right and able to interpret and comment on educational policy with authority. They would not be drawn specifically from educational interest groups and indeed one of the main aims of the commission in our view would be to bring trade unionists, employers and ordinary citizens more fully into the education service. However, experience within education obviously should not be a bar to membership of the commission.

The standing commission could appoint sub-committees for different areas of its work. These sub-committees could recruit specialists and on particular issues would consult with existing bodies such as the Schools Council and the Advisory Council on Teacher Supply and Training and with the main interest groups such as the teachers.

and local authorities' associations. They could systematically review the principal areas of policy and practice which the education service is now operating. Our aim is to provide suitable machinery for putting the relevant issues in a longer term perspective in the light of broader social and economic trends.

In its own planning the Department is too secretive and concentrates too much on resource allocation rather than educational objectives, the report says. Though outsiders should not be involved in the work of the Departmental Planning Organization (DPO), the main DES planning unit, there should be a much wider and more informed discussion of education policies.

We believe that many of the papers of the DPO which do not breach the constitutional principle of the confidentiality of advice from individual civil servants to individual ministers should be published. There is a wide range of empirical evidence behind the 1972 White Paper which has been buried at from time to time by various witnesses but which has never been published.

Planning would be improved if the DPO ensured broader educational objectives were constantly reviewed. An annual review of the objectives of the 1972 White Paper might be a useful starting point. The committee also recommends

New consultative machinery is not necessary. What is required is a willingness by the DES to open up public discussion on policy issues. This willingness should extend to discussions with Parliament.

It is ironic that it should have seemed natural that, in defending its record, the DES made no mention of Parliament, the group with the widest range of interests at all, the elected representatives of the people.

The standing commission recommended by the committee was not intended to be a vehicle for pressure groups, Miss Fookes said. "We see it as a place where individuals can give their views. But if their participation is to be worthwhile they must have full access to as many facts and figures as the Department can give without breaching confidentiality."

In recommending more involvement by the Secretary of State in the curriculum the committee did not mean more political interference in the classroom. It thought the Education Secretary could give a lead in this field and work through the Assessment of Performance Unit.

Miss Fookes said the committee was concerned that the Department never so much as mentioned MPs. "Yet we are the most important group as elected representatives," she said. "We see in the future a role for much greater dealings between our committee—or something like it—and the DES."

There was a difference between shared decision taking, negotiation, consultation and giving information. When the DES defends its readiness to consult, the examples it cites are mainly those of negotiation. Perhaps the most important example, in our evidence, of policy which required negotiation was the changes in teacher training policies in the early 1970s. In our view the DES did all it reasonably could to ensure that the general public was kept informed of the changes who would be affected by it. It was clearly not so successful in relating its policies to the findings of the James Report, then a major influence on educational opinion, or in ensuring that, when the general policy changes were made, the affected institutions knew and understood what was to befall them.

There can be no doubt that there is a widespread feeling that the DES is not sufficiently open in its dealings with the various interest groups

- the Education Secretary should take more part in shaping the curriculum but should not try to control it.
- the Department should make many more documents open to the public and should encourage wider public debate about policy.
- a Standing Education Commission of employers, trade unionists and others, should be set up to bring more outsiders into the education debate.
- DES planners should spend more time considering broad educational objectives, and not just the allocation of resources.

involved in education and with the public at large. Although the interest groups have been able to refer to some "bad cases" we are satisfied that they are consulted on a wide range of decisions within their zones of concern. However, the DES does not encourage the wider public, to participate in discussion of long range planning and of the overall purposes and aims of the educational services. This might be one reason why the interest groups are preoccupied with the term "issue" when they, too, ought to think well ahead and beyond their own limited professional concerns.

The committee spent some time considering complaints that the Department was too secretive.

In the United Kingdom it is normal for an "official" paper to be restricted and so it becomes the habit of the DES to withhold rather than voluntarily to share information before the root of most of the criticisms of DES consultative processes.

We recognize that to alter the rules would require radical changes in the working of the whole Civil Service and that it would be unrealistic of us to make this a recommendation for the DES alone and beyond our remit to advocate it formally for all government departments. We therefore reluctantly accept the present conventions while trying to make their application more flexible.

New consultative machinery is not necessary. What is required is a willingness by the DES to open up public discussion on policy issues. This willingness should extend to discussions with Parliament.

It is ironic that it should have seemed natural that, in defending its record, the DES made no mention of Parliament, the group with the widest range of interests at all, the elected representatives of the people.

The standing commission recommended by the committee was not intended to be a vehicle for pressure groups, Miss Fookes said. "We see it as a place where individuals can give their views. But if their participation is to be worthwhile they must have full access to as many facts and figures as the Department can give without breaching confidentiality."

In recommending more involvement by the Secretary of State in the curriculum the committee did not mean more political interference in the classroom. It thought the Education Secretary could give a lead in this field and work through the Assessment of Performance Unit.

Miss Fookes said the committee was concerned that the Department never so much as mentioned MPs. "Yet we are the most important group as elected representatives," she said. "We see in the future a role for much greater dealings between our committee—or something like it—and the DES."

There was a difference between shared decision taking, negotiation, consultation and giving information. When the DES defends its readiness to consult, the examples it cites are mainly those of negotiation. Perhaps the most important example, in our evidence, of policy which required negotiation was the changes in teacher training policies in the early 1970s. In our view the DES did all it reasonably could to ensure that the general public was kept informed of the changes who would be affected by it. It was clearly not so successful in relating its policies to the findings of the James Report, then a major influence on educational opinion, or in ensuring that, when the general policy changes were made, the affected institutions knew and understood what was to befall them.

There can be no doubt that there is a widespread feeling that the DES is not sufficiently open in its dealings with the various interest groups

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may ask questions of the DES or speak in debates on education but they are never consulted. To overcome this the committee has decided to undertake a yearly analysis of the education section of the annual public expenditure White Paper, reporting to the Commons before the start of the public expenditure planning exercise. And the committee recommends that it should be kept informed of the details of the Department's large scale policy reviews.

The committee also recommends that educational research should be published sooner even if they are not complete, and that the equivalent of a Chief Scientists' Organization to preside over research should be set up in the DES. It also commends to private foundations the idea of setting up an Institute for Education Policy Analysis.

The proposal results from a conviction that the DES exercises excessive power through its capacity to collect and analyse information and make sophisticated judgments before policies are formed. Some parallels can be drawn with the National Institute for Economic and Social Research which is financed partly by the Treasury, but is entirely independent of it; its quarterly reports are of great importance in critiquing and helping to develop economic policy.

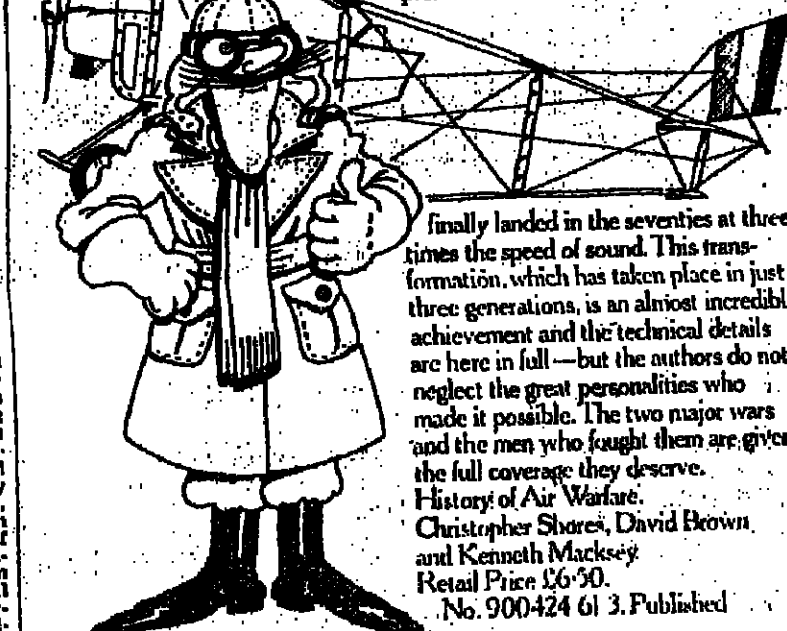
The chairman of the committee during the inquiry was Miss Janet Fookes, members were Mr. Alf Davies, Mr. James Boyden, Mr. Bryan Davies, Mr. George Gardiner, Mr. Ted Graham, Mr. Peter Hardy, Mr. Arthur Lewis, Mr. Anthony Moyer, Sir John Rodgers, and Mr. Michael Ward.

10th Report from the Expenditure Committee (including Minutes of Evidence) Session 1975/76. Policy Making in the DES. HMSO £8.85.

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## Curriculum control: 'public are calling teachers' bluff'

by Bob Doe

England and Wales are moving towards more centralized control of the curriculum just as other European countries are beginning to move in the opposite direction. The former education Minister, Mr Gerry Fowler, and a former senior civil servant at the Department of Education and Science, Sir Toby Weaver, were among those at a meeting of the British Education Administration Society in London last weekend who said it was likely the Department would play more part in determining what was taught in schools.

Sir Toby, who was Deputy Secretary at the DES when he retired in 1973, said: "The public have called the bluff of the Department of Education and Science, and are demanding the right to say what ought to be the ends of education instead of leaving them to the mystique of the profession. Governments in the past have been over-ruled by the influence of the ruling party could often be seen in curriculum."

Mr Fowler, who was sacked from his junior ministerial post in the recent government reshuffle, said it would be fatal if the Department's desire for a more overt say in the curriculum became a dictatorship. It should be a bringing together of recommendations from several sources.

Mr Barnes, head of Rufford Comprehensive School, Liverpool, said teachers might no longer command complete public confidence, but the public trusted them more than they did local or national politicians.

It was difficult to see how a central system run by the Department or L.E.A.s would not dilute schools of heads and teachers, and dilute the quality of the inspectorate. Few chief education officers had the expertise to determine curricula either. Teachers were prepared to give up their claims to the sort of unquestioned professional judgments made by doctors, he said. They were ready to discuss educational objectives.

He favoured the continuation of the school based system, with greater accountability. The present position was that governors were supposed to oversee the curriculum. But in practice, he said, they would need to monitor the school's effectiveness regularly with objective measurements, that were "neither crude nor narrow." He did not underestimate the difficulty of this and said the DES's Assessment of Performance Unit was crucial.

"The degree of autonomy at present enjoyed by educational institutions and the teachers working within them can only be legitimate if more extensive and more objective assessment of performance by professionals outside the institution concerned is accepted."

There was a danger of political indoctrination and bias in any curriculum determined by the Department or politicians, Mr Barnes said. This fear dominated education in Germany, Clive Hopes of the Institute of Social Policy at Saarbrücken and Hans Brüggenmann, who works on a curriculum project in Münster, told the conference.

Central control in West Germany meant the curriculum was a political

cal hot potato. It was often the subject of parliamentary debates and had been an election issue more than once. Responsibility for education was devolved to the 11 state (Land) parliaments in the Federal Republic. There was virtually no school autonomy in curriculum matters and the head tended to be an administrator.

Committees of politically appointed teachers and academics drew up proposals for legally binding curriculum guidelines. Teaching had to be carried out within these guidelines which lay down such things as the priority of teaching a subject to a specific age group, objectives and content.

All learning materials too had to be submitted to the education ministries for approval. Hopes and Brüggenmann said the influence of the ruling party could often be seen in curriculum.

The results were that teachers tended to teach only to the minimum requirements, even though there were some areas where the curriculum could be interpreted more freely. The "core curriculum" idea with options determined by local authorities was not entirely satisfactory. Because examinations were based on core work, teachers concentrated on them.

German school inspectors (known as Schulpfänger) spent all their time supervising the system and inspecting teachers, and had no time to act as advisers or spread new ideas. But there were signs that this centralized control was being questioned, and even the federal Advisory Education Council wanted more school autonomy and participation in decision making by teachers, pupils and parents. This had become increasingly necessary as the West Germans started to experiment with comprehensive schooling.

In Sweden rigid central control of the school curriculum and organization meant that desamplifying and comprehensive schools were locally run, but not entirely autonomous. Each school had a curriculum issued by the central school administration specifying subjects, timetable and topics to be covered. Parliament had to approve the curriculum, and only centrally approved textbooks could be used.

School leaving exams at 16 had been abolished. Teachers' assessments were used instead, supplemented by a series of achievement pupils but which were not used to test teachers' marking scales. If one teacher gave scores much higher or lower than another, the test scores had to be produced to justify them.

While the centralized system lifted responsibility from teachers' shoulders and protected them from the whims of the head or pressures

from colleagues, it also was feeling among the teachers that decision makers were not understanding of practical problems, and this had been made worse by the organizational reforms which had reduced the teaching force by one-third.

The council decided this at a meeting of the county-wide of maintaining equality of standards throughout the county's schools for at least the next five years.

Traditional teaching was affected by the cuts in staff and the county council was still used to a county-wide of maintaining equality of standards throughout the county's schools for at least the next five years.

There was no move to relax the grip of the county council on all things educational. The Government has issued no guidance to individual local authorities as to how they should spend next year, and the £5m in the Education Ministry budget has been worked out by the county council.

There were no signs of change, he said. Decisions on the nine teachers suspended from the county council were made by the county council, not even a committee of the county council. In Scotland there was a new law, the Education (Scotland) Act, which gave local authorities more power to suspend teachers, but the county council was still the main decision maker.

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## Oxford goes ahead with £5m cuts



The Oxfordshire county council is to go ahead with its proposal to cut £5m off next year's budget and by the organizational reforms which had reduced the teaching force by one-third.

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## New exam to beat 'language crisis'

A completely new style of foreign language examination, based on a graded series of tests for competence in reading, writing, listening and speaking, was called for by a conference organized by the University of Sussex and the Centre for Information on Language Teaching (CILT).

The meeting was organized to discuss the need for a new examination for foreign languages. The conference was organized by the University of Sussex and the Centre for Information on Language Teaching (CILT).

The new examination proposal was adopted unanimously. Proposing it, Mr Roy Porter, Chief Education Officer for West Sussex, said it would open the whole range from below O level to beyond A level.

## Round up of last week's news

## Kent set on collision course

Kent County Council, one of the eight L.E.A.s refusing to submit plans to go completely comprehensive, took one more step towards a head-on collision with the Government. The authority's schools subcommittee have recommended to keep grammar and secondary modern schools in five more areas—Ashford, Maidstone, Malling, Cranbrook and Sittingbourne.

The decision has yet to be approved by the education committee and the full council.

## Building halved

The 1977-78 building programme for the universities is to be less than half the current year's, the Government announced. Out of a total £24.5m programme for higher and further education major projects authorized by the Secretary of State for Education and Science in 1977-78, only £4m has been allocated to the University Grants Committee.

The MSC will pay them a maintenance allowance of £16 a week, free of tax and national insurance contributions. The employer will pay no wages and will not recruit directly. The commission will put forward a list of young people registered with the local careers office, and the employer will have the right to reject.

## Devon suspensions lifted

Day, chairman of Devon education committee, and Mr Colin Abraham, NAS-UCT executive member for the region, says the teachers will now work to the disputed timetable but expect to see "an equitable reconstruction". An agreed timetable was expected to start on Monday.

No record of the suspensions will appear in the teachers' personal files, and there will be no victimization, the agreement says. The dispute came near to settlement a week earlier when Mr Joslyn Owen, the chief education officer agreed that supply teachers could be hired. The NAS-UCT assumed that supply staff would take the extra lessons for the time, but the authority's view was that the staff would be deployed at the head's discretion, and so the dispute continued—until the latest peace formula was hammered out.

## Equality ruling rocks Surrey

of Teachers' Act. The Sex Discrimination Act does not invalidate previous legislation. But Mrs Castle's lawyers argued that only rulings connected with pay had the force of law. Other provisions in the Burmah Report could be affected by other laws. The tribunal agreed and said Mrs Castle had been discriminated against.

The Equal Opportunities Commission helped her with legal fees up to £350. The job has not been filled yet and the county council will now consider her application. It will be 30 years before the number of women teaching for the more responsible and technical jobs equals the number of men at the present rate of progress.

This depressing conclusion comes in a report just published by the Regional Advisory Council for Technological Education in London and the Home Counties. Its committee on vocational courses for women says there has been a slow improvement over the past five years but women and girls are still too limited in their choice of careers.

Spanner in the Liberal works

The Liberal Party Assembly in Edinburgh came close to saying that the Liberal Party was in favour of the Education Bill.

There were 20,000 qualified teachers on the dole, he said, yet the motion called for an improvement in the status and pay of teachers. There was nothing about the reorganization of secondary education, nothing about the Education Bill, nothing about statutory periods of appointment for heads, grants for overseas students, or any rise in the cost of higher education.

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## LETTERS

## Minnows in an ocean of maths

Sir,—The abolition of the 11-plus, the coming of comprehensive schools and the creation of middle schools, together with the changes in primary school methods, have led to children with a wide range of mathematical abilities and varied mathematical backgrounds coming together in a new school.

It has been recognized that the attempt to test the ability of these children on arrival turns out to be a test of the primary schools from which they came. This has led more and more secondary schools to have mixed ability learning groups for mathematics at least in the first year, which has meant a reappraisal of methods.

All teachers are affected, from the most experienced to those who have not yet finished their training. What is being done to assist them in this adjustment to new situations? We offer the following suggestions for action and questions to stimulate discussion.

Initial training: colleges and

departments of education should include much more instruction in, and discussion of, mixed ability methods in their courses. How many of the tutors have practical experience in these methods?

Probationary teachers: support must be given by schools to their probationers who have received little or no information about such methods, and advisers or teachers' centres must help with this. Are probationers released for such support and training?

Experienced teachers: what provision is made for the retraining of the experienced by the DES, local authority advisers or teachers' centres? What facilities are there for the release of teachers for retraining?

There is a vast pool of experience in secondary, middle and primary schools in mixed ability methods yet enthusiasts are frequently working in isolation in many parts of the country.

What opportunities are there in your area for cross fertilization of ideas and information, not neces-

sarily limited to the boundaries of the local education authority? Who is responsible in your area for the correlation of information on mixed ability groups?

When did you last talk about teaching methods to your primary/secondary/college of education colleagues?

Is there a possibility of an interchange of teachers between schools on a day basis in your area?

Could some training college personnel gain experience in mixed ability groups in schools, at the same time releasing teachers with experience to be made available to other schools in the area?

In the present financial difficulties, with good will, much can be achieved on the basis of these suggestions even without a large budget.

RACHEL F. GIBBONS, chairman, p.p. J. K. Brunton, M. J. Cahill, C. T. Daltry, N. Harvey, D. A. Hobbs, D. M. J. Hockley, W. E. Walker, Mathematical Association 9-16 Sub-committee.

## In the grip of Oxbridge

Sir,—“Storming the ivory towers” (September 10), by Sir Alex Smith is pertinent although it has all been said before. Nothing will be done about it, however, basically because we lack the national will and energy.

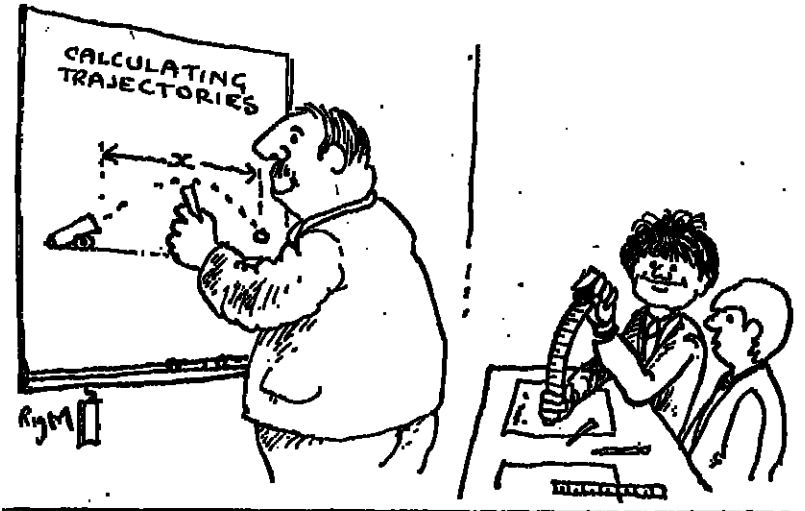
One reason is the grip which Oxbridge has on the country. For centuries they were the only universities, with their beautiful buildings and environment, their international prestige, their association with the upper class and hence with a pleasant cultured, relaxed way of life. In this century, however, they have become a stultifying, not to say disastrous, influence.

There is no question that the top products of Oxbridge are very able people, who would excel anywhere under any system, but in the more widespread products it has created an attitude of unjustified, unjust, complacency and sense of unwarranted superiority which have hidden fair to be our ruin ever since 1900.

When redbrick universities began nothing better could be thought of than to copy Oxbridge. This left them with a feeling of inferiority. The chance should have been seized to create institutions like the French Polytechnic or the Massachusetts Institute of Technology where our best brains, or some of them, could be trained in the modern science, technology and management skills which we desperately need.

Oxbridge still has some people of effortless superiority, but too many who lack both superiority and effort, and too many who are mediocre. This we still have a governing elite, so that the industrial North, which keeps us all in the end, is still regarded as an inferior place, and the new redbricks as glorified tech colleges.

J. D. TAYLOR, 88 Rochdale Road, Southorpe.



## A plea for Italian

Sir,—The letter “A plea for modern languages” (July 9) brought home the importance of learning a foreign language in our schools. Italian at this time, since the ICLE will be meeting on October 9 to discuss suggestions for a national policy for modern languages.

In 1974 the Association of Teachers of Italian published a booklet *A Case for Italian*. Following our research, we were able to present an accurate picture of the position of Italian in British education.

We were able to provide some examination figures and lists of British universities offering degree courses in Italian, polytechnics which teach Italian, teacher training colleges as well as useful addresses and sources of information.

The ATI, now in its tenth year, has grown rapidly, thanks to the enthusiasm of those who love the language. Now, however, we are faced not only with the problem of introducing Italian, but also with

that of defending its position in the curriculum at a time of educational cuts.

Headteachers, perhaps understandably, are worried about introducing Italian in case they cannot replace the teacher and some training colleges have, in the past, been reluctant to train teachers of Italian as a main subject because of the lack of demand from schools. It is a vicious circle.

It must be pointed out, however, that the ATI has doubled its membership over the past five years (it now has almost 500 members) and is still growing; and so concerned are we about the reluctance of many heads to employ teachers of Italian that we are in the process of compiling an employment register to assist in the location of available teachers. We are also able to offer advice and courses and to schools interested in introducing the language.

GLORIA ACKERLEY, Chairman, Association of Teachers of Italian.

## What chance now of a fairer deal?

Sir,—With the return of Mrs Shirley Williams to the Department of Education and Science, perhaps we can hope for a fairer deal for newly qualified teachers.

I endorse the views of Anthony Hayes (September 17) in the frustrations of job hunting for the probationary teacher, as I, too, have been seeking a post for a year, and was forced to take up other employment.

I thought it might improve my chances of obtaining a post if I could do a long course for qualified teachers. I learned that priority for places is given to teachers employed by education authorities. If a course was under-subscribed, then it would be possible to attend as a private student.

This, in plain language, means no grant forthcoming. Yet, teachers who are fortunate to have a teaching post can attend those courses on recommendation from their heads. This seems unfair discrimination.

Three years must elapse before you can take up any other vocational course. I was accepted for a secretarial course last year, but could not start because I was

refused a grant.

I have enrolled on a course of operation of the Technician Education Council. I am now in the waiting list for a post. One major area of the TEC is the determination of the further year since the TEC was set up.

The advice from the TEC (September 17) states that “many courses are no longer available providing what students and industry require.”

“This may not be my approach to industry, but I am sure that the TEC is doing its best to provide what students and industry require.”

“There is a need for more courses for improving responsiveness to industrial needs.”

“What, however, are the views of industry?”

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## Why these TEC changes?

Sir,—The volume of adverse criticism concerning the policy and mode of operation of the Technician Education Council has grown in the last few years. One major area of criticism is the determination of the TEC to impose change for the TEC.

In a recent article, the chief officer, Mr Harrold, states that “many courses are no longer available providing what students and industry require.”

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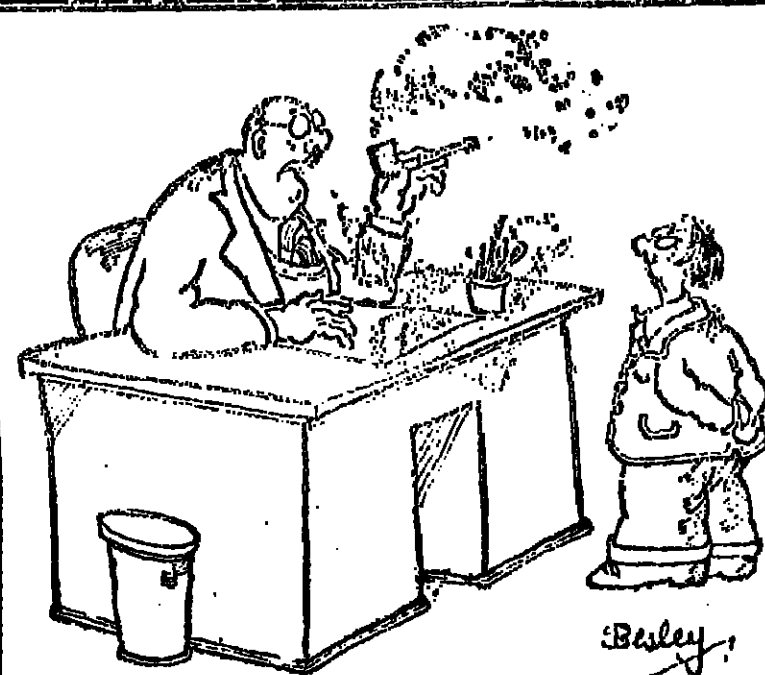
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## LETTERS



“Dash it, Sanderson, how many times do I have to tell you that chewing gum is a nasty, filthy, disgusting habit and it's high time you learnt to stop.”

## Clocking-on is no joke

Sir,—I should be grateful if you would allow me the courtesy of replying to the three correspondents whose letters (September 10) criticized my letter on teachers' holiday activities (August 27). I can assure your three correspondents that in no sense was I joking. The matter seems to me to be much too serious for anybody to make jokes.

I did not at any time state or imply that the Houghton Award was not justified. Indeed the Professional Association of Teachers has always made it clear that the Houghton Award was recognizing the position of teachers and rectifying earlier deficiencies. My statement about the effect of the award was based on fact, as I see them.

The situation is illustrated by the present concern for a contract of service, in which teaching holidays, size of classes and other factors regarding employment, are laid down. There is a definite moving away from professionalism to looking at teaching as a “clocking-on” job. This may be resisted in the interests of members of the profession.

I agree that most teachers have the interests of the children at heart, but too many of them are swept along with the tide of action created by the social minority who advocate industrial action to attempt to solve educational issues. Teachers should join a trade union that puts the interests of the children and the community first. Unless this happens, the entire teaching profession will, as I suggested, be ruled by the TUC and divorce itself

from teaching for 165 days of the year.

I know, too, that there is a good response to in-service training. Our holiday courses are often over-subscribed. I can see nothing wrong in a teacher paying for such a course, although the course can calculate its own expenditure, it cannot estimate costs in the colleges because there are so many imponderables. In any case, it would be impossible to carry out a comparative study because there are no national figures for present spending on technical education.

I leave your readers to reflect upon the logical inevitability of this economic analysis.

R. LONG, Head of School of Chemical and Physical Sciences, Kingston Polytechnic.

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## Learning from the notes

Sir,—Sir Alex Smith, in his paper in the British Association meeting (September 10), would like to see “an evolutionary development of day release and the sandwich course... education in an educational community.”

I would like to support Sir Alex's theme and believe that the way ahead is along the following lines. If anyone wished to learn a topic then they would contact their local college. The college would arrange for printed sheets of notes and problems to be given to the student each week.

If the student needed help in understanding the notes or solving the problems, he would see a tutor at the college or one of his colleagues at work. Practical work could be done at college or at work, dependent upon the facilities available.

National organizations would be responsible for the production of the notes and problem sheets; perhaps the CMAA would oversee the higher level work and TEC/BEC the lower levels. These councils would request teachers in colleges to submit manuscripts which the councils would reproduce and distribute to local colleges. These notes would be updated year by year from comments from industrialists and teachers. The councils would also be responsible for producing examination papers at six monthly intervals.

W. D. ROBERTS, 23 Richmond Drive, Nottingham.

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The Central Bureau

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43 Dorset Street, London W1H 3FN

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Here Frances Stadlen reports on the pioneering

Hammersmith Teenage Project, which attempts to offer delinquents a real alternative to residential care: on the opposite page, a teenager in a northern borstal reflects on his future

## Intensive treatment

"The boy came from a local school at the point of suspending him for continual rude behaviour. The last straw was a fight with a teacher. We decided to accept him because, first, he had certainly been involved in offences although he had never been to court and, second, by accepting him before he was suspended, a place would be kept open for him at school, making it easier for him to go back.

"When he came he was often very rude to the staff and other children, using his size to try and dominate. He also had difficulty reading and writing. We tried to help him to control himself and to build up his confidence in his academic work.

"By the end his behaviour had improved a lot. He was polite and considerate, though he could still lose his temper. He had lost his need to dominate and was therefore far more acceptable to his friends. He seemed more confident in his work. He went back to school, who have given us good reports of him. He is still attending and he has not been in trouble with the law."

That was a report on one of last year's more successful referrals to the Hammersmith Teenage Project in Shepherd's Bush, West London. Run by the National Association for the Care and Resettlement of Offenders (NACRO), it is a three-year experiment in short-term, intensive and community-based treatment for delinquents, to see if they can be put back on the straight and narrow before they become too hard to crack.

It is one of the first sustained attempts to put some of the propositions of the Children and Young Persons Act of 1969. That Act was based on the assumption that care of this kind could sometimes work better than residential care. Although residential care is now regarded in some professional circles as an expensive failure, the Act was still in line of both public and professional opinion.

What price is acceptable for the consequences of offering delinquents relatively lenient treatment? Can the understaffed, underpaid, ill-equipped and unconvinced statutory services be stretched or expected to deal with children whose outstanding quality is that they cannot or will not toe the line?

At Hammersmith they are experimenting with three ideas basic to the Act: that there should be more coordination between the statutory and voluntary services about what might be done with a delinquent child; that greater faith should be put in the community's ability

and willingness to help, and that early preventative treatment could achieve a significant reduction in the numbers of older criminal teenagers.

The project has accepted 100 children since it opened 18 months ago. Most of them have been from large, poor families and broken or unhappy homes. One third have been on care orders, and have been referred to the project to avoid further appearances in court. Most have been truanting or not going to school at all. Not many have been on drugs; almost all have belonged to gangs.

To qualify for the project, they have to be between 12 and 16 and "at risk": children who have not broken the law, but who look as if they might; those who have offended, but for whom a police caution does not seem enough, but prosecution excessive or damaging; and children who have been in court.

The ones who have not officially been in trouble can be referred by anyone who spots that the project could be helpful—playleaders, doctors, the police, social workers, teachers. The ones who have just begun to go off the rails are referred by the local police juvenile bureau, in agreement with their parents. Those at the stage of going to court are referred by magistrates as an alternative to, or partial remission of, sentence on condition that they show signs of reforming.

Every child stays for three months and is straightaway attached to one of six "linkers". Linkers are young people in their twenties who have been in trouble themselves (drugs, fraud, receiving, handling) and are using the project to make a fresh start. Normally they have no professional qualifications, but plenty of realism. They are paid an unqualified social worker's rate for the job.

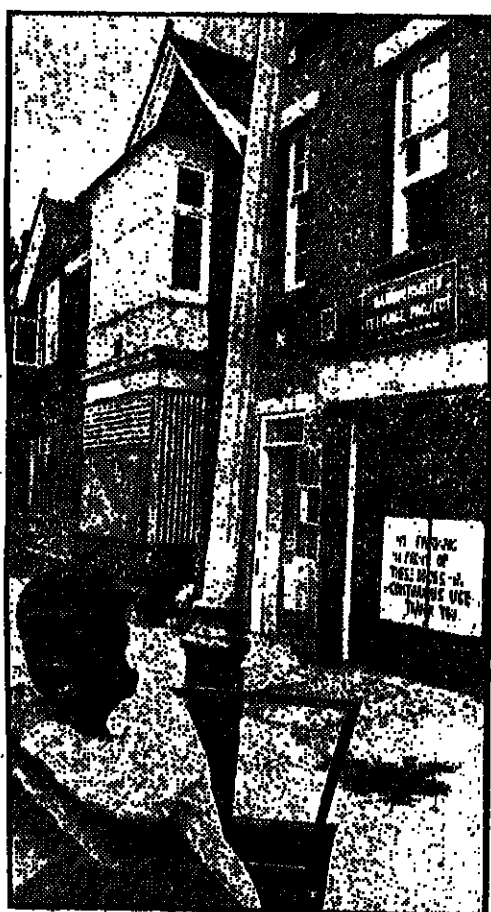
The children are assigned to a day or evening programme, depending on age, and whether or not they have been truanting. A dozen truant attend during the day. They get a full-time, properly organized education from a qualified teacher. She has a qualified assistant, volunteers and the linkers to help her. They are given plenty of individual attention and an organized course of reading, writing and arithmetic. The afternoon is less formal. They go on visits, take exercise and learn crafts. They have general discussions about the law, rights, contraception, sex, family relationships, and so on.

The evening children take part in organized and informal activities with their linkers and volunteers and a quali-

fied youth worker. They use this opportunity to talk over some of their difficulties and to work out plans for the future. The project employs a social worker and counsellor to help on both day and evening programmes.

The linkers' job is to get to know their children as well as possible. In three months' day-to-day talking and shared experiences (including discussions about school, friends, family, interests, prospects and behaviour), they try to make practical, absorbing plans that will make delinquency seem unnecessary.

This might mean going back to school, going to a different or specialized school, starting and keeping up a hobby, learning a trade or skill, getting a job, or getting into college. At the least, it could mean arranging for a social worker or club or voluntary organization to take an interest when they have left the project. A joint and flexible approach to delinquency, making the most rational use of



all the available sources of help, personal or not, is a basic principle.

This principle is put into practice by the project's own management budget. Some money—total £200,000—comes from the Youth Services Unit of the Home Office. Hammersmith social services have the building and pay the running costs, the salary of the social worker, the London Education Authority pays the teacher and the youth worker. It is accepted that professional, unqualified people should work on a side.

A steering committee of senior staff from the local statutory agencies—police, social services, education, courts—meets regularly. A specially convened committee of government departments, national organizations meets to discuss what lessons can be learnt from the project.

The value of the local community effort will be put to the test in 1971. NACRO hands over to Hammersmith work which the staff have built up over the last year. It is quite a bit of good will and a sense of ownership that the project's success depends on.

Michael Whitlam, the director, is most of his time making local connections and getting people round tables. There is a slightly distressing difference between talking to the various parties individually (when they will fairly drop demarcation lines) and doing the issues in committee, when they do adopt a party or professional delinquency.

The result, he says, is that they are all pushing for the children, often in different directions, and can end up tearing them apart. Differences in their approaches and responsibilities seem to many of the delinquents they deal with, he says, at best confusing and at worst, a source of frustration. He says, "I want them to want them for their own reasons, but at school, the daily social workers are more prepared to settle for some looney on the street in the interests of eventual success."

A course has been arranged this year at Avery Hill College of Education. Teachers, education welfare officers, social workers are discussing how they might work together more closely. Teachers from two local schools will give time off to attend the course for such a course is in itself a significant advance.

Without the backing and interest of social services director, Peter Weir, the project would not have found a home in Hammersmith. However, it is clear that goodwill is not enough. Apart from the difficulty of the work, there are the professional fears and prejudices of individuals.

Some social workers have found it hard to accept the idea of working with linkers, and have not really done so. They have, feared their directness with children, and have not believed that people might know what they are talking about.

Some, on the other hand, have lately seen the possibilities of the project, and have come to see the few hours a week to work with the linkers they referred to the project. NACRO can get on with the children in a way that social workers, whatever they have to offer, cannot.

Relations with court officers have been good. Magistrates, says Michael Whitlam, have been using the project imaginatively and spontaneously. It took some time to respect the linkers' judgement. One was won over when a linker

recommended residential treatment for one of his children.

The police are friendly, but have so far been cautious about using the project, and have referred only three children. NACRO sees this as an unwillingness to look for ways of getting round their statutorily defined areas of discretion. But Chief Inspector Brian Lewis, of the Hammersmith juvenile bureau, says that it is not a simple matter.

"We look for the odd, exceptional child on the fringe of tumbling into crime, who hasn't got much going for him apart from the project. That's the sort of child we might refer. In most cases, if our caution is ignored, that's it."

He takes the view that unless the police do what they say they are going to do to juvenile offenders, they and the law look absurd. He does not accept the idea that his bureau might follow the example of the divisional education officer, who is willing to bend the rules a little with truants if it seems more realistic or constructive than sticking to the letter of the law.

The police, he says, must consider their duty to the public first. The fact of having broken the law weighs more heavily with him than indulging his understanding of or sympathy with the criminal motive. To prove his point he quotes the number of teenage recidivists in Hammersmith; it clearly does not occur to him that the official cautioning—prosecution round in which so many teenagers are caught up does anything to swell his statistics.

By contrast, the LLEA and certain local schools are starting to exploit the opportunities they have to use their discretion in individual cases. The official hope is that the effect of the project on individuals will be to persuade as many children of school age as possible to come back. But some mind more about this than others.

There is a growing acceptance that some children will never go back and that they are shrewd not to. It is accepted that the best thing to do in some cases is to offer them work experience courses as an alternative. Others, though only a minority, will never be able to put any kind of secondary school experience, however special, to good use. And there are some who could usefully be seduced back to school at least part-time, for whom the statutorily required proceedings (a court appearance and a supervision order) is not compatible with the kind of persuasion the project was set up to experiment with.

If the divisional education officer has either the instinct or the option to use the force of law, it is undermined by the fact that with some children it does not work. With the borderline cases there is not the money, manpower or understanding to make supervision orders under social workers work. On top of this, there are the high attendance figures (nearly 100 per cent) for the day programme, the project to reckon with. If the alternative is delinquency on the streets, the figures speak for themselves.

There are limits. The divisional education officer and welfare officer both accept the project but only on condition that it does not open the door to an unlimited, unofficial, counter-education system. They subscribe to the existing system, where most of their work is. Children separated from their classmates, singled out for special attention and denied the advantages of a large school, are, in their book, put at a disadvantage. Relations with local schools, particularly Christopher Wren, are good enough to avoid the last danger. Any child who retains loyalty or affection for his school or teachers can and does spend two or three days at the project and the rest in his old school, getting encouragement from both and using the best of what each has to offer.

The dilemma is that what the project and what his school have to offer differs. The project has struck up the begin-

nings of another good relationship with Avery Hill College of Education. Two second-year students on the youth and community course have arranged to do their teaching practice at the project by combining it with one afternoon a week's teaching at Christopher Wren.

Although a lot of people in the statutory services are leaning over backwards to give the project a chance, they leave the impression of having residual doubts and, in some cases, of feeling disapproval. They wonder where, logically, it is all leading.

On their side, the staff at the project can point to what they consider their success. They think they have begun to prove the value of preventative work. On their own reckoning, a good half of the children they now take have made good progress, compared with almost none of the hard core delinquents whom, for various reasons, they were taking at first.

Although it is not difficult to take their word for it, to the outside eye this is not easy to detect. Faced with visitors, the children there now are likely to start competing furiously about the scale of their misdeeds. The numbers of cars nicked, the numbers of nights spent sleeping rough, remain a measure of their worth—at least to each other. Delinquency still seems to be the most glamorous, if not the most interesting or pleasurable way of life they say they can think of.

The difference between the earlier and present intake of children has taught the staff to be quite clear about whom they can accept and whom they must refuse. One girl was referred by her social worker after she had been suspended from school for going to sleep in lessons and lighting fires in the lavatories. She was living in a children's home and had been on supervision order for earlier offences. When interviewed, she seemed cheerful and positive. However, her social worker failed to explain how difficult things were for her. Her mother had been mentally ill and had died, as had her uncle with whom she had subsequently gone to live. She turned out to be highly disturbed. Neither the children's home nor the project was able to help. She ended up in a secure home.

NACRO insists that the linkers on the project are not social workers but the staff of a superior referral agency. This is why they have comparatively light caseloads compared with local authority social workers. The intensity of their work should make up for the pressurising three-month deadline to be dispatched quickly and efficiently into a constructive future.

Some linkers balk at this. They say that under any circumstances, and certainly with their children, it takes longer than three months to achieve this. The condition of success is that they get to know their children very well indeed. This takes time.

NACRO argues that children who become too dependent on their linkers, who are too disruptive, or for whom long-term specialist help is necessary, should not be there in the first place. The project is meant to be an experiment with children for whom a bit of individual attention, encouragement and a good talking to is enough: a breather, in other words. A further complication is the project as an opportunity for an intense, long-term and measurably successful relationship that gives them as well as the children a sense of achievement they have not experienced before.

Without the linkers, on the other hand, the project would lose its direction. They are the essential link with the community on which the project is hoping to be able to prove it can rely when it has done its part with the children. The people who take jobs as linkers are the only ones beside the children who know what it means to play fast and loose

with the law, and what the consequences are. They come from Hammersmith themselves. They know what opportunities there are for the future, who might help them, and in what way. They are the ones who can act as go-betweens, explaining the community to the children and the children to the community.

That is the theory. In fact this aspect, NACRO admits, has not been proved, and it is not sure why. NACRO plans this year to work hard at building up contacts around Hammersmith—with employers, local associations, colleges, residents and parents. It wants to find out if, with a bit more effort, the community can be persuaded to take more responsibility for the delinquency that each year increasingly threatens its streets, property and peace of mind.

## Voice from inside

I like to feel I could go straight, but I've been inside before, remand centres, and that, and it doesn't work. While you are in, doing it, you make out a plan of what you are going to do when you come out and get a job, but then there are all sorts of different things that drag you away from working, and back on that same old line. It's no use, I know when I go back out that I am not going to go straight, and so I've made up my mind to do a few jobs. I'm just going to do a few things, get my own little gang. When I say gang, I don't mean a little boy gang. I mean people who think the same as me, they want something, they want to get somewhere. What we intend to do is to do a few jobs.

I know what I'm going to do. There's a shop in Park Lane, I'm going to do that and there's a few other shoe shops, really good shoe shops, I'll do them. There's a fellow in here, he lives somewhere out in the country, and there's a little country post office, they are not all that secure as the post offices in London, well I'll go out there and burglarize them. With the money I get I'll invest it in something, open a club or something like that, with somebody that's a bit more intelligent than I am, who can run those sort of things, and from there build myself up. If I can, well if I can't I'll either that or come back in here.

Because I can't picture myself going out and working for not even £20, and that's reasonable. But this will be my downfall because I'm very greedy, and stupid in the sense that when I get money I spend it all, I just give it away. I hope that when I go out, and the money I get, if I got money, and if I don't get into trouble before I get this money, I'll put it to some use. I'm going to open a club or gambling casino, or something like that, but I can't honestly say that I'll give up gangsterism, like thieving, because not only do I do it because I want the money, I'm used to it. It becomes a habit. Just like somebody biting their nails. You tell them to stop it, they stop for a couple of days and right, they just start nibbling again.

And it is just like the geezers in here, some of them that come in here, they say that they are going to go out, but they are not, they are only kidding themselves, or maybe they are sincere for the time that they are in here, but when they go back out there, they are not going to go straight. For every 40 that leaves this Borstal, one goes straight. I've noticed stacks of people say to me, "I'm going out today and I'm going to look the world in the eye, build myself up, honestly" but it's so hard nobody knows what you are going through, only you.

And nearly all these people in here are weak-willed. I know them, I live with them, they are weak-willed, and you just tell them to do something, and there's a bit of money in it, easy, you don't have to work. "Yeah, come on, let's go," and they will do it. If you get caught, you get caught, if you don't they do something else, and they are just kidding themselves, the geezers in here, all of them, and I'm not excluding myself. I'm not going to say I'm not coming back. I hope I'm not going to put myself in a position to get caught, but I can't say for sure that I'm not going to get caught, because there are things that I am going to do that involve risk.

In here I go back into my world of fantasy. Where is that? It's me, you know, I'm it, I'm everything. I have everything I want, I sort of build up something and it's there for me. I haven't got no worries, I've got girls, all over the place, and people at my feet. I've got the best things, well as far as I'm concerned. And I don't need nobody. I don't have to rely on nobody. I do now and then, I have to, but not in this, not in my world I don't need no one.

I've got my own ideas, my own style, a house that I picture is mine, and I've got my own furniture, and I don't care about nobody else. I'm really hard, and my own boss. I don't care about the help being locked on me, I sort of help me a bit. I know that I'll be out soon, and I say to myself that I'm going to do it, but I know I can't, maybe I will, but it's a very slim thing, becoming what I want to be. I know it, but I'm going to fight. I'm really going to fight to get what I want.

This may sound stupid, and I don't really know whether it's true or not, but I feel if it was worth killing someone that was no use to me, I would. Maybe I'm wrong, but killing they say is hard to do, and I've never killed anyone yet, but I think that if I had to kill someone to get what I want to get, to get them out of the way, I would. I often think about it, what does it mean to me? I can't grasp it, you know. I think of lots of funny things like death. At the exact time I die, what happens? I can imagine what happens when I die. You know, a candlelight in a dingy room, a dark dingy room and just this candlelight, and sometimes your ears start ringing, well that's what it's like, and my face is cold and sort of numb, you with me? And I'm like a baby again, and I feel heavy.

I miss part of it out, I miss part of what it's like to die, as far as I'm concerned anyway, part of it, and that part just tells you about it. Sometimes I just sit down and rack my mind to find out what happens after death, because this can't go on for ever, just in a dingy room, in this cell, feeling cold and numbish. What happens after death? Then I look into a sort of darkness, in a long... I can't picture what comes after that darkness. Sometimes it frightens me, it depends on what mood I'm in. If I'm in a lonely mood it does, if I'm in a happy mood I say, "Oh, shit when I die it's sort of think of it. Because I've been very lonely at times."

This extract comes from an unpublished collection of interviews with young people in borstals, conducted by Loren Farmer.



# Words from another world

## Elizabeth Henry on the study of ancient history

Can there be any relevance today in a course in ancient history? This apparently remote study is attracting more students every year, and their interest is taking a new direction. To begin with, the scene is more familiar than it could have been a century ago. What a Sunday newspaper has recently called the British love affair with the Mediterranean (and it has kept its colour supplement going for six weeks on this) is no longer the delight of a leisured upper class. Nor is it confined to the highly literate. In the days of the Grand Tour, the traveller's observation was informed by the study of history. This study would depend largely upon books. Even for the wealthy who brought home antiquities, historical study meant primarily attentive reading of narrative records. Greek and Latin authors were the source of historical knowledge, familiar to the schoolboy long before he visited their native lands. Today these experiences are likely to be reversed. In the seventeenth century John Evelyn, visiting the Catacombs, saw skeletons and relics in the little square rooms, with some of the ordinary ancient paintings, adding "here in all likelihood were the meetings of the Primitive Christians during the persecutions, as Pliny the Younger describes them". Few of those who visit the Catacombs today have ever heard of Pliny the Younger (though they may turn to him perhaps after their visit). Similarly the Roman Forum, or

Olympia, is encountered first on holiday, or on television. The words of historians have lost the primacy they must have had for a schoolboy two centuries ago. The ancient world today is first associated with spectacular places, and with rare objects which can be displayed in museums.

Knossos, Santorini, the tombs of Thrace; these have yielded treasure unknown to the eighteenth-century scholar. Our increased knowledge of Troy, for instance, has come from a continuous process of archaeological investigation, from Schliemann to Blegen. The schoolboy/girl whose interest in ancient history is kindled perhaps by an afternoon at Windlands does not need to be told that history is written in the soil. Archaeology indeed has emerged as a major subject at university level, and is offered at A level by a small but increasing number of schools. This is a new discipline, including scientific aspects; it cannot provide a narrative record to be perused, and though there is glamour at Mycenae there is also meticulous labour and a kind of intellectual demand perhaps comparable to the linguistic component of classical courses in the past.

Archaeology calls for the scrutiny and assessment of evidence, piece by piece. It does not follow predefined "periods". When the first chair of archaeology was to be established at Oxford in 1885, Arthur Evans drily pronounced the title "Classical Archaeology" as reasonable as "Insular Geography". Today, archaeologists have added new regions and new centuries to the history of the ancient world, but, more important, they have changed the whole concept of how historians work.

Few excavations provide material on one aspect only of a people's history. Even a temple, such as Lydney, or a fort, like those now being excavated in Cumbria, usually has some remains on the site which give evidence of how others lived near the priestly or military caste. Interpretation of one set of finds often leads to reinterpretation of another. So the old division into political/military/economic history, etc., is not maintained. It is also obvious to a student who has given any attention at all to archaeology that knowledge of a topic such as the slave trade, or Emperor worship, can never be thought complete. A definitive account is not looked for.

Entrants in GCSE ancient history and kindred subjects cannot then suppose that they are entering a world of greater certainty than those of modern subjects, and they can hardly be moved by the sort of veneration for the classic authors which perhaps inspired their great-grandfathers. Only a small minority of ancient history candidates now take the subject along with Greek and Latin; ancient history (or classical civilisation, etc.) is being offered at A level with English, or geography, or government perhaps. The attraction of what can be seen as a new aesthetic field, or a new kind of science, does not wholly account for this.

For many reasons, numbers taking the ancient languages have decreased. Statistics are not available to show how many of the ancient history A level candidates have studied Latin to O level, and whether such students are more likely to take ancient history, or the CSE syllabus does. Clearly, some candidates are Latinists, while others might otherwise be studying a modern history syllabus. Specific career qualifications needing ancient history are rare. What do these A level candidates, or undergraduates, think they will actually gain?

Some, it must be admitted, think it may prove an easy option. Though the archaeological approach recognises that knowledge is always modifiable, it is still possible to think of history as a series of finished phases which can be mastered by thorough study of text books. Ancient history is

zation or individual character?" This begins to look like a kind of relevance; and it takes us across the boundaries of conventional "periods", to the work of scholars like Nock or Cochrane or Grimal, studying the metamorphoses or fusions of ideas and social forms. Sometimes the questions that arise like this can be very topical. Does a polytheistic religion which includes goddesses influence the position of women in society? Did the Olympic Games in the sixth century BC embody values which were corrupted under the Roman Empire?

This sort of question cannot be discussed without a foundation of historical knowledge, and it used to be assumed that the purpose of an elementary course in history was to convey this basic information to the student so that it would be firmly fixed in his mind before any superstructure of detail and inference and evaluation could be raised upon it. This superstructure was in fact only to be attempted by very advanced students. So it made sense to set O level questions such as "What were the principal features of the Augustan Constitution?" These "features" were part of the basic foundation, like the names of Hannibal's victories. But though phrases like "tribunician power" have to be known before they can be said about the Augustan Constitution, they have also to be defined, before the statement has any meaning, and defined not merely in terms of legal formula but with a delicate analysis of their historical context.

It would be hard to give any useful account of the Augustan constitution without one specific quotation from the *Res Gestae Divi Augusti* and other contemporary records. The discussion of such evidence soon begins to make the "basic foundation" itself seem artificial as well as elementary. Study of the evidence about the Augustan constitution reveals, even at an early stage, that it was not only unwritten but much more complex than the "names the features" approach would suggest, involving some written laws certainly, but also political precedents and shifting social attitudes. What is needed is the consideration of evidence from sources which must include inscriptions and contemporary literature, and much of this can be made intelligible to students even of school age.

It is this insistence upon the use and interpretation of evidence which distinguishes the ambitious new series on the History of the Ancient World, shortly to start publication from Fontana. The general editor for this series is Oswyn Murray, tutor in ancient history at Balliol College, Oxford. His own field of research has been the cultural interchanges of the Greek world—a field where archaeology is continually providing new material—not the excitement of the rare spectacular discovery such as Tutankhamun's treasure, but rather an accumulation of small items coming to light to confirm or modify what we know about everyday life, as well as records of events which people thought important at the time.

These small items may be weapons or tools which can give evidence about trade or technology, or pottery fragments whose composition or decoration can date the buildings on which they are found, or coins, or inscriptions, or above all perhaps inscriptions, the number of these is astonishing. Latin inscriptions of the Imperial period alone are published annually in France about 500 each year, either newly discovered or newly interpreted in important ways. If we add Greek like Punic, this adds up to an immense amount of new evidence—continually appearing.

In an age without printing, stone was the most likely medium to use for a document intended to be permanent. Oswyn Murray, speaking of the kind of inscription which might provide information on the transmission of ideas, says: "The inscription is a political statement, since it is often set up in two languages, which is useful to us, for there is a lot of Latin and Greek in the same inscription."

Sometimes, he says, an inscription from one part of the Mediterranean can tell you about life in a completely different area. His favourite example of this type is the at Al Khumayr, on the borders of Afghanistan and Russia, the banks of the Oxus, a collection of a few fragments of stone, which has been shown to be part of a collection of 150 commandments from the Delphic Oracle.

This was set up in a Greek military colony and is identical with an inscription from Myra, in Asia Minor, the "Sentences of Amatoris" in a Greek font Egyptian

thebes, and a literary text known as "Sayings of the Seven Wise Men" shows the pressure to cultural uniformity throughout the Hellenistic world. The Khumayr inscription was first published in 1968.

The Fontana series will use this kind of evidence at every stage to support the line account given for each period, and to show "the criteria on which the evidence must be evaluated if history is to be written"—how historians work. In fact, the quoted comes from the introduction to *Ogilvie's Early Rome and the Etruscans*, a first book to appear.

Fontana has already published some standing original books in its history series, and like them, the Ancient World series is intended for the "general reader". On Murray recalls how it began, from a letter had about five years ago with Michael Bull, a modern historian who at that time was editor for Fontana.

They wanted to get beyond the limits of narrative history, and show what problems arise in interpreting the evidence about the ancient world. Few books have done this apart from specialized academic studies; the more elementary kind of it used, say, for O level, is still narrative in form, as a rule.

Could a history of the ancient world as the Fontana series provides a model? historians whose field lay outside the world period? Oswyn Murray thinks so, but the approach would be valid for any part of history; "but in ancient history, amount of material is more manageable. haven't set a limit at all to the series, as in time or geographically; we have sketched planned, but there could be more—Egypt or Byzantium."

Oswyn Murray's own contribution to the series will be on *Early Greece and the East*, a period which he finds attractive because it presents the impact of different peoples on one another in so many different ways. This can lead on to very general issues: such as the effect of widespread slavery coming to a society for the first time, or in time or geographically; we have sketched planned, but there could be more—Egypt or Byzantium."

Literacy is one among many aspects of social development which appear at different stages in different places, and one of the advantages of ancient history is that it can show diverse societies at different points of development—in the sixth century, for example, with Sparta and Athens as two of the most advanced, and the Persian Empire, the last of the great empires, as one of the least. This has happened in our lifetime, some parts of the world; can it be made irrelevant to look at societies where it has been long ago?

Oswyn Murray quotes a remark of Sir John Myres: "No one who wishes to understand the contact with the institutions of the world can afford to neglect the study of the organization of Mexico or of the Incas. That was written in 1910, Myres thought of people looking at Africa; South American life to help them understand the ancient Mediterranean; but today the help must come the other way round."

Myres's arresting sentence comes from a book which no school library is likely to possess, and almost all he wrote is now out of print; so it is no use telling sixth-formers to turn to Myres for intellectual excitement. Nor can they (usually) consult original sources beyond the few available in Penguin Classics or in the form of a LACORD.

This series has been the most successful attempt so far to provide historical information in translation, for specific topics. They are presented in a lucid and scholarly manner and they are inexpensive; but as yet they include no Greek material, earlier than 478 BC, and nothing on Roman history before Sulla. For many of the ancient historians, the long delays that have been completed before the book order arrives. It is this immense difficulty in making material available to classes which has probably deterred many teachers from trying the A level syllabus which look so stimulating for a level. (They do still lead to some rather stilted examination questions.)

The new Fontana series offers a hope to teachers in this situation, and it might help their pupils, and their pupils' parents, and the "general reader" to understand what ancient history is all about.

# No idle luxury

## Robert Dearden on the philosophy of education

Philosophy of Education. By James K. McClellan. Prentice-Hall £3.45. 13 663294 7.

This book is a contribution to the philosophy of education. It is a book which includes texts such as Frank's *Ethics* and Chisholm's *Theory of Knowledge*. It can have been no light task either to choose the author or to write this contribution for such a notable series. The present book is intended to be introductory and to assume no specific training in the philosophy of education but only some personal acquaintance with schools.

The first thing likely to strike a British reader is how extraordinarily narrow is the extra. The first chapter explains how the function of the philosophy of a practice is to reveal its rational structure and then critically to test it. But the remaining four chapters are wholly devoted to doing this for an encounter, "to teaching encounter". Central to education as the concept of teaching may be, one would have expected at least some discussion of the curriculum, of social principles and values and perhaps of organization and method.

A second striking feature of McClellan's "introductory" book is its style, which is in many places so difficult as to make its meaning virtually unintelligible. Try this representative passage, admittedly taken out of context but drawn from a section on lucidity in teaching:

Assuming that the (\*) in L1 is really what B wants to learn, it is still possible for B to know that A is trying to bring it about that B learn (\*) and be mistaken in the belief that A is trying to help B to learn (\*). Instead, A may conceive his effort as that of getting B to know for himself (\*) (\*). After this, McClellan goes on to discuss pellucidity in much the same style.

I think it would be generally true to say of British philosophers of education that they still feel a sense of community with each other and with teachers in the schools. On the whole they still believe that the school can be a worthwhile institution.

## Days of hope

### Araminta Wordsworth

The Rise and Fall of the British Documentary. By Elizabeth Sussex. University of California Press, £6.50. 520 02869 4.

Elizabeth Sussex has had the brilliant idea of producing the survey of the British documentary movement in order to discover the facts—or some of them—behind the myth. Her differing perspectives, memories and opinions edited down from many miles of tape-recordings form the bulk of the book, with short connecting passages provided by the author-editor.

When we talk about a documentary, today we probably think in terms of a non-fiction film on television, with real unacted action glimpsed straight from life. Its subject is possibly the war in Vietnam or the starving in a technique.

John Grierson, founding father of the documentary movement and the man who actually coined the term, thought a documentary was something rather different, though, like its modern namesake, rooted in reality. For him a documentary was more like a realist film—though as Arthur Elton recalls, he disliked this term—in which everything was carefully controlled and there was a pre-written script. No room for improvisation here.

tion which may be made better by their particular contribution to educational debate. But McClellan is in a state of ill-licked rebellion against schools and those who run them. So disenchanted is he that he would tear down the whole system, conceding only that until this can be done school beats standing out in the rain. We are therefore to envisage throughout this book a "teaching encounter" in a de-institutionalized context, such as that of being on either end of a log, with an umbrella.

McClellan is ambivalent towards his fellow scholars. He acknowledges a general indebtedness to a tradition of thought to the point of disclaiming any originality. Yet the behaviourist psychologists he sees as mad and the philosophy of education lecturers as hopelessly compromised by being part of a re-educating system which has been contrived to indoctrinate teachers in the cynically chosen values and beliefs of a powerful establishment. Like such prominent philosophers as Rawls and Nozick, McClellan turns away from actually trying to put his own ideas. Happily they are found to work—among the So.

McClellan shapes up to his task with all the appearance of analytic intent. Familiar things are said about teaching: that it involves an encounter, that it implies an intention in respect of learning and that it reveals content. But then a condition of success is asserted to be that the teacher should be able to teach what he has learned. There is no edible knowledge. I was sufficiently convinced of this conceptual point to resist eating McClellan's book as a possibly easier way into his meaning.

For all its obscurity of style and narrowness of agenda, this book is in some ways both refreshing and heartening. The least that can be said is that it is very different from the usual matter, though it can be the same taken severely claim to be introductory. But more than that, it is written in the urgent belief that philosophy is no idle luxury, included to give a few nice finishing touches.

Behavioural objectives and performance based teaching, education are two crudities which McClellan So. Then what sort of analysis is it? I suggest that what is presented as an analysis of meaning would be better seen as a back-to-front disclosure of a set of educational values. This makes apparent

If Grierson had not existed, it is arguable that Britain would have made no lasting contribution to world cinema. However, excessive historiography of this, our own worthwhile achievement, means that no one has seriously looked at the gap between theory and practice, what the films were really like once the shouting died away.

This is one of the chief values of Mr Sussex's book. As she points out, the films on which the myths are based were often awful. Such badness cannot be explained only by struggling with cumbersome and shoddy equipment, though undoubtedly portability of cameras and better sound recording would have helped. Nor is it because audiences are more sophisticated now and can read film more easily.

The reason is probably lack of distance. The old-timers—Harry Watt, Paul Rotha, Basil Wright et al—have been reminded in philosophy by the fact that they are already are too blinkered by their own inabilities to be truly evaluative. They do not notice what seems to be the pervading attitude: the good old British vice of paralyzing colonialism.

## Among this week's contributors:

Robert Dearden lectures in the philosophy of education at the Institute of Education, London University. Ralph Berry is at the Department of English, University College, Buntingford. B. S. Robertson lectures in the teaching of geography at the London Institute of Education.

# Cut-price?

M. B. Thompson

The English Middle-Class Novel. By T. H. Tomlinson. Macmillan £7.95. 333 19400 4.

Professor Tomlinson's is, all in all, a very peculiar book. In order to cement together what appear to be his lecture notes for a standard course on the nineteenth-century English novel, he has mixed in his adhesive thesis that "the English novel emerges as broadly speaking a middle-class, and very stable, enterprise." The *gens d'origine* is Richardson, and from him the novelists of the next century and a half (with the exception of Scott) developed "the middle-class and bourgeois concerns that he had distilled as one of the novel's main concerns."

Far from intending any Marxist disparagement here, Tomlinson emphasizes that he sees the middle class in "hopeful and positive" terms and its novel as a concentration of the "best things in the dominant culture", not as a diagnosis of the sickness and decline in middle-class life.

One of the better essays in the book is that on *Middlemarch* and it is from George Eliot that Tomlinson borrows his working definition of "middle-class": it embraces everyone from shopkeepers to social climbers, "intellectuals and clergy like Lydgate and Farebrother, and established county families like the Chestons and the Brookes". Add to this Tomlinson's clerks and politicians, James's Americans (Tomlinson names Strether and the cast of *The Awkward Age*), the *Woman in Love* people from Crich

to *Forster*, and you have a concept almost meaningless in its diversity. It would be charitable to Tomlinson to ignore his silly and somewhat dishonest overall theory and to look instead at what he has to say on his individual novels and authors. Where he does not distort to accommodate his thesis, Tomlinson hews to the middle of the academic road both in his selection of examples and in his critical treatment of them. We get the usual banalities on Tass and *Alexander*, on Conrad's "Englishness" (or James's), on the Condition of England question.

But much of what Tomlinson says is vitiated by the drabness of his own prose and by his propensity for fatuous, almost unbelievable pronouncements. To James Austen, for instance, he credits the "crucial" post-Richardsonian step in the novel's development of "writing books short enough to be consumed by (and in) a reasonable span of attention". From his introductory chapter we bring this nugget: "Leaving Stratford behind, or not having been born in it, is a constant literary experience." And so on.

The best essays are on *Emma*, *Sense and Sensibility* to *Persuasion*, and *Middlemarch*. Tomlinson does not seem to like Dickens and this renders his judgments (to put it kindly) eccentric. He hasn't a clue about Lawrence, and the comments on Gaskell, Disraeli, Hardy, and Trollope are bland as only cut-price Lewis can be.

Among the novelists totally ignored are the Brontës, Kingsley, Thackeray, Reade, Gissing, Stevenson, and Moore—all of whom could, quite validly, fit Tomlinson's complicitous thesis.

There is probably a valuable book to be done on Tomlinson's chosen subject. This isn't it.



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Ich kann's! —An illustrated German course JACK STEVENSON Book I £1.95. Book II £2.45

Books 1 and 2 of this three-part course in German to O level are now available and the publication of Book 3 is expected next month. The course provides teachers with clearly defined and carefully selected material which allows pupils of a wide range of ability to achieve a thorough grounding in the patterns and vocabulary of German. Of Book 1: "This book will act as a sensible, well-graded guide through the first year of German." TREFFPUNKT

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This new book is based on a course of work taught to a non-examination 15th form in a comprehensive school and which also formed the basis for a Modern GCSE syllabus. The subjects covered are critical path analysis, flow diagrams, statistics of various kinds, graphical work, surveying etc., and relevant mathematics of a simple concrete kind developing from these. A Teachers' Book with suggestions for alternative approaches to the work and hints and answers is available.

Senior School Mathematics £2.45 M. KEEPING

This new book provides a basis for a one-year course for pupils in the 15-18 age range by introducing branches of mathematics which are new to school mathematics and in developing some familiar topics. Among the subjects covered are chapters on probability, coastal navigation, the use of calculating machines, flow chart programming and the use of mathematics in industry. Pupils studying for the proposed Certificate of Extended Education could find the subjects covered useful.

An Introduction to BASIC £3.76 M. R. EAGLE

Just published, this book introduces concepts using simple but interesting examples to the student who has had no programming experience.

Multiple Choice Questions on 'A' Level Mathematics £1.95 R. W. PAYNE and D. B. PENNYCUICK

The questions in this book cover the London G.C.E. A-level syllabus in Mathematics and Further Mathematics to be examined from June 1977. "Useful for both teacher and student this book can be recommended for use in both schools and colleges and it deserves a wide circulation." ILEA 'CONTACT'











## Fit to print

Frances Farrer

on printing methods for  
school publishing

Printing and duplicating is now so simple and potentially cheap that almost any class or group of children from about eight upwards can produce their own publications virtually unaided.

Methods vary from silk screen, line and potato cut, spirit and stencil duplicating and photocopying, to semi-professional letterpress and small offset litho. Combinations of methods can produce lively printed materials on a low budget.

As a self-help project, printing a newspaper or magazine has a great deal to offer. A group of children with very different interests can be involved in the cooperative effort and can be strongly motivated by the deadlines and group criticism. Writers, illustrators, designers and sub-editors are only a part of the staff. Printers, machine maintenance engineers and production staff responsible for costing, coordination, and possibly even selling advertising space, are another related group. Traditionally related to English and art, can draw also on mathematics, engineering, woodwork and commerce.

The style and frequency of production and the amount of supervision depend, of course, on the teachers and situations, and the content on the interests and abilities of the editorial staff. Regular publication and fast printing help to maintain enthusiasm. Once the project is set up the children can often take it over and decide how to organize themselves. A newspaper could contain community news, interviews, television and film criticism and a guide to local events as well as information relating to the school, creative work, cartoons and drawings.

Gathering the news calls for local involvement and has another advantage: the publication can then be sold outside the school. A more concentrated magazine concentrating on music, creative writing, with some local children, could be a great but more lasting publication could draw on local history, environment and architecture.

Many schools have simple printing equipment such as spirit or ink duplicators which could be used by children for some time each week. Methods such as silk screen and relief take time to set up, but little capital. Letterpress and offset litho are more expensive and professional is possible, to be or buy second-hand equipment, in which case it is better to get an expert opinion.

The choice of printing technique

depends on the age and abilities of the children, and on cost. Younger children can usually print with spirit duplicators or by hand with lino or use very simple letter press blocks. Ink duplicating and screen printing are the next simplest, offset litho and letterpress are only suitable for secondary school children.

Costing is complicated since the price for each copied sheet depends on the price of the machine, the plate, the paper, the ink, maintenance and the number of copies. Sometimes a relatively high capital expenditure such as buying an offset litho duplicator and master maker (from about £2,000) will give a very low cost per copy. Using a paper plate, 500 copies might cost 45p for paper and materials. The same number of copies made on a photocopy (costing from £250) might be £10.



Using the correct materials for the job reduces costs. The price of duplicating stencils and plates for offset litho varies according to the length of run and quality. There is no advantage in using an expensive master for a few copies where the highest quality is not needed.

The chart on page 35 shows minimum prices of printing and duplicating machines; prices of master and plate makers are given in the text. They are only a rough guide. There are many techniques for which costs and results vary

although they are not directly related.

In all cases the preparation of the plate, master or original, is most important, and the equipment needs to be well maintained and cleaned. Relief printing involves a raised image, inked or coloured, pressed down by hand or with a press. Potato and lino are the best known materials for simple hand-made relief printing blocks. The image must be meticulously cut and the edges kept sharp or the result can be blurred.

These methods are only suitable for printing small areas as it is difficult to apply even pressure to larger blocks. However, they can be useful for magazine covers, headings and patterns and for adding low-cost colour to single colour printing.

Professionally-made rubber stamps come in various designs and cost from about £4. The well-known John Bull printing set, which many primary schools already have, adds another print size and style and could also be used for headings.

The above are simple versions of the basic principles of letterpress printing. For this, metal or wooden type is assembled in racks, secured, inked and put under pressure.

Letterpress is used in an automated form to print newspapers. Some schools use simpler machines and get good results; even very elderly presses can produce fine work. Letterpress is most suitable for the art printer in a secondary school, since composing (assembling the type) is slow and meticulous.

Second-hand presses are easily obtainable relatively cheaply, though different styles and sizes of type are less easy to find. It should be possible to set up a basic letterpress printing for about £500, using second-hand equipment. Producing photographic or line blocks has to be done professionally and costs from about £4 a block.

Spirit duplicators are available in most schools and are usually used for running off exam papers and diagrams. They are also suitable for magazine or newsletter production, especially for primary children, since making masters and running off copies are simple techniques and costs are extremely low.

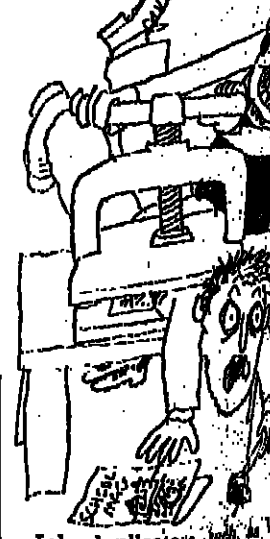
Alcohol-soluble dyes are pressed onto a hystographic carbon master, by writing, drawing or typing or by



Platemaking for printing by small offset litho. Photographs by Elliott School, Wandswoth, London.

thermal copier. To print, the dyes are dissolved onto the paper by methyl or ethyl alcohol. Up to seven colours can be used on one master and printed simultaneously.

Two factors apart from the quality of the master contribute to good spirit duplicating: the pressure and the amount of moisture on the paper. If the paper is too damp the image is washed from the master very quickly and if there is too much pressure the image is pulled away giving a short run. The number of copies obtainable from spirit duplicating varies from 100-200 depending on the conditions. Nig Banta and Olfex supply duplicators and materials. Olfex also supply Fordiflex thermal copiers, which make spirit masters automatically from text and line containing carbon, using infra red heat. By making several masters from one



Thermal copier. To print, the dyes are dissolved onto the paper by methyl or ethyl alcohol. Up to seven colours can be used on one master and printed simultaneously.

original, longer runs are possible. Thermal copiers also run on quality stencils for ink dyes or no-dyes for overhead projector or silkscreen. They cost from £100 to £200.

Continued on page 35

Continued from previous page

of the original and a needle responds by cutting small holes in the stencil. Scanners, such as those made by Gestetner and Olfex, cost from £400.

Although they cannot cope with large areas of black and do not reproduce photographs very well, the quality and variety available from scanner-made stencils is in some ways quite near to offset litho.

Plastic or carbon stencils can be used. Plastic ones cost about 20p each and give better quality reproduction, carbon (or tissue) stencils cost about 10p each.

The length of run varies according to the stencil. The cheapest gives about 2,000 copies a good quality hand cut stencil or one made on a thermal copier gives up to 5,000 and a stencil made on a scanner could give up to 10,000 copies.

Silkscreen, or screen printing is the technique most commonly taught in art classes, usually for

each colour. Up to three or four colours are practical, although many more are possible. A silkscreen costs from about £4 to make and about £6 to buy ready-made from a supplier. The screen fabric costs from £2 a metre. Powder or emulsion paint can be used instead of screen ink but is not much cheaper. Oil-based ink is the most practical.

Screen printing suppliers such as Sericol or Marlor can advise on materials and techniques and Sericol produce a series of free technical information sheets.

Photocopying is the simplest of all printing methods for the operator. It reproduces text and line very well but the cheaper machines cannot print photographs or large areas of black.

There are several types of copier which work on different principles. The generally involve exposing images on to charged printing surfaces—either the paper itself or a part of the machine. The most obvious differences are between copiers from machine using wet toner, which emerge slightly damp, and copiers from those using dry toner, which emerge dry.

Photocopying is useful for very short runs or for making plates for offset litho but is uneconomical for printing large quantities. A paper plate, simply fed into the machine instead of photocopying paper, it may be practical in some cases to use a local photocopying service for platemaking, rather than buy a platemaker. The plates would have to be supplied by the school, who may also have to persuade the photocopying office that platemaking is possible.

Offset litho ranges from small table-top machines, which trade printers call duplicators, to the complicated equipment which prints full colour national magazines. The smaller machines, such as A. D. Dick's 310, Gestetner 104, Rotaprint 774, are easy to operate and maintain and should be well within the capabilities of the older secondary school child.

Offset litho can reproduce text, photographs, line drawings and large areas of black—almost any size depending on the quality of the original, the plate and the machine.

This technique is based on the reaction between oil and water. All machines have three cylinders: the plate cylinder, which carries the ink, is dampened and the image area receives greasy ink. It prints in reverse on to a rubber cylinder or blanket, paper is fed between the blanket and the third, or impression cylinder, and receives the inked image which has been offset from the blanket.

To set up from the beginning, offset litho is the most expensive printing method mentioned here but it is very versatile, it prints in professional quality and running costs are reasonable.

There are several types of plate for offset litho: direct image, diffusion transfer, electrostatic, negative or positive sensitized and photo-direct. The first three are the cheapest and most practical for schools. Direct image simply involves drawing, writing or typing



Printing from a lino block on an Alexandria press built in 1893.

(with a special carbon or litho inked fabric ribbon) on a paper plate. These cost between 3p and 9p each and give runs of up to 4,000.

Diffusion transfer plates are made by exposing a negative and original together. The negative develops with a reverse reading image which is transferred to the plate by diffusion of the silver halides in the negative.

Diffusion transfer platemakers, such as the Ricca Diamond, cost between £300 and £600, metal plates about 35p and paper ones about 30p, giving runs of 40,000 and 900 respectively.

Electrostatic platemaking works in almost exactly the same way as electrostatic photocopying and indeed can be done on most photocopying machines, among them the Rank Xerox (rented only), Agfa-Gevaert N 10 (about £1,500), A. B. Dick or Ronco Vickers (from £700).

They make quite good paper plates for about 5p each which will give runs of up to 4,000. Electrostatic platemakers or copiers such as the A. B. Dick 675 or Nashua Copycut 220 cost about £900, between 5p and 7p a plate, giving up to 1,500 copies.

For all these methods the original has to be perfectly prepared since it is impossible to make alterations on the plate, only occasionally deletions. Photographs or continuous tone illustrations have to be screened (photographically converted into different sized dots) before the plate is made.

A photographic process camera costs about £1,000. It is possible to process photographs using a white dot screen and a photocopier. Generally the best solution is to use photographs from books or newspapers as these are already screened.

Design in design there can be no absolute rules, only general principles such as simplicity, attractiveness and clarity. The style of a

illustrations—artwork—must be perfect. Otherwise a rough diagram can show where the text, illustrations, headlines and white space will be. Pages which face each other should be designed together.

Facing pages can also be designed as a spread, using the same column widths and perhaps running a headline and a long article across both pages.

The width of the page and the size of the type affects the number of columns. Large type, as on newspapers, looks odd if used for more than two columns on paper up to 10 in wide.

Typography. Even using only one size of type throughout a publication, many variations of typography are possible. School publications are usually typed by the school secretary or commerce students so the typography is that of a business letter rather than a newspaper or magazine. Common mistakes include underlined headings with full stops, gaps between paragraphs and too much indentation.

Headlines should be larger than the type size whenever possible, lettered by hand or transferred or using cutouts from other publications. The first paragraph of an article or story looks attractive with the first line full out (not indented) and the lines slightly wider apart than single spacing.

Electric typewriters give the neatest and most even print and some can justify (set the type with a straight right-hand margin).

Colour and illustration. Colour can be overprinted or inserted into monochrome publications. Space can be left on pages for overprinting by lino block, rubber stamp or John Bull letterpress. Colour pages can be printed by spirit duplicator and inserted into the publication, but the page size must be kept the same. Coloured papers can be used with ink duplicators. Screen printing can produce excellent colour magazine covers.

Photographs are only worth including if the printing method being used will reproduce them reasonably well. If not, line drawings, cartoons, maps and even diagrams help to liven up the page.

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HAROLD W. APPLETON reviews science games and KEITH STAPYLTON looks at some mathematical games

## Up to these grand games

Longman Resources Unit: Science Games

Part 1, nine units: The great blood race; Nutrition; The digestive system; Transport in plants; Microbes; Classification; Water cycles; The air about us; Science sense.

Part 2, eight units: Chemical families; Atomic structure and bonding; Reaction—chemistry's alphabet; Competition among the metals; The electric circuit; Energy conversion; Keeping warm; The solar system. Both parts have teachers' units. Longman.

My first impression on speeding this pile of booklets over my table was: "Oh dear, another lot of gimmicks aimed at wasting a great deal of lesson time keeping less-able, or more unruly, pupils occupied."

If your first impression is similar, stop and look again carefully. The publishers claim that they are aimed at the 11-to-18 age-range, suitable for CSE or GCE work is well founded. Some of the games demand considerable skill and knowledge. Indeed, two of the units are also suitable for A-level or OMC work.

For a subscription of £24, plus £1.50 postage, you receive one copy of each unit (19 booklets in all). You also get a unit order form entitling the purchaser to 90 science games units selected to suit your own requirements. Since each game involves several players, six or eight units of any one game are sufficient for one class. Further units may be ordered at a cost of £5 for 20, plus 50p postage.

Part one games cover aspects of

biology, chemistry and physics. Part two has only physics and chemistry work. Some units are used for more than one game. Preparation time, at the rate of 10 to 20 minutes for part one games and up to 40 minutes for some in part two, is needed to provide background information and to prepare some question cards. The games vary from 10 minutes to one hour. Most games then need a follow-up or discussion period of similar period of time.

Part 1. The great blood race has a snakes-and-ladders type of board with pick-up cards containing biological information which carries penalties. No skill is required, but knowledge should be acquired.

Nutrition consists of two board games. The first is an energy pyramid which should explain the ecological relationships between producers and the various levels of consumers. The second, called "Developing famine," is far more involved. Each of the players has to calculate food values and enter them on cards in tabular form. At the end of the game 40 minutes are needed for the follow-up. The relative values of Third World and developed world diets together with deficiencies and the resultant diseases are involved.

Breakdown is a digestion game, again on the snakes and ladders principle, but demanding a fair knowledge of food constituents and digestive processes throughout the alimentary canal.

Transport in plants demands a knowledge of osmosis, root-pressure, transpiration and photosynthesis. Invasion is played on a complicated honeycomb battlefield, and

deals with phagocytosis, immunization, resistance to microbe strains, etc. This again carries bonuses and penalties related to defence and attack. It is a question and answer game of some complexity.

Classification involves two games. The first classifies the living and non-living world. Unfortunately, it involves working from two pictures some parts of which are not at all clear. Without the answer sheet I would not have identified a lettuce, moss, several species of tree, nor would I have recognized a guppy or a pike in the very complex pictorial. Simple line drawings with a scale would be preferable.

Game 2 involves classification, within the headings of solids, liquids and gases, plants or animals, each group of players being involved in one section. It is similar to game 1, but played over a wider field.

Water cycle starts with the players preparing their own question and answer cards. After this, a combination of chance and skill is required, together with a fair knowledge of the water cycle, sewage treatment, water-purification and other factors. The standard of the game rises with the knowledge and skill of the players.

The air about us is based on a balloon race from London to Paris and involves convection currents, winds, air pressure and its effects, the composition of the air, clouds and fog. Both skill and luck are needed to win.

Science sense is concerned with laboratory safety and mistake spotting. A cartoon section of errors is examined first. Then follows a



A cartoon from "Science Sense".

straightforward board game of chance, familiarizing players with safety rules by observation and repetition. A second scrutiny of the cartoon is then allowed for the correction of any earlier errors.

Part 2, is more advanced. Chemical families deals with the periodic table and the chemical groups it contains. There are three games from a simple classification to a game similar to "sevens" in patience.

Link-up is a three stage game requiring a knowledge of atomic structure, electron shells, electrovalent and covalent bonding. It is not a board game, but uses target-like electron cards and a number of game cards with very scorching questions.

Reaction—chemistry's alphabet uses the players as elements in various reactions, travelling round a board, first as elements considering their properties and reactions and then as compounds. This is quite a complicated game involving a lot of chemistry.

Competition amongst metals is a game played on a board like a volleyball court. It deals with the reactivity series in its various aspects. It is reasonably straightforward.

Electric circuits is quite a complex game played on a board and with circuit cards. It needs a knowledge of Ohm's Law, shunts and the power within a circuit. Players are required later to calculate motor readings and shunt values for their circuits.

Energy conversion contains two games, the first involving a parody of questions and answers by the players. It traces the ways in which the energy is stored and used. The second game, the more difficult, game can become. Game 2, with energy conversion and transducers which bring about changes.

Keeping warm deals with various energy forms which warm a house, evaluating their efficiency and ways of heat losses. The follow-up includes cost analysis and calculation of heat losses, etc.

The solar system. Two units are required for each planet (but each is counted as a half when ordering). Its aim is to say—is to "apply the basic law physics associated with motion space travel" as well as to facts about the solar system, and to make science facts more readily understood the game will not so sure how some of older teachers will manage it. I think the instructions and explanations were a little thin.

Without many hours to go together with a captive team, some cases six or eight players was impossible to get any of my class—if indeed any exist. With reservation, I would suggest these kits are worth careful consideration since they not only instruct, but ensure that players are fully involved in the topics presented.

## Mathematical strategies

Mathematical Games 2  
by Peter Epps and John Doane  
Macmillan Education, £13.50.

The set consists of 15 mathematical board games mounted on folded strawboard with a comprehensive set of teachers' notes, explaining the games and philosophy behind them.

They seem to be intended for the top of the first school, or the middle years of the junior school. They cover number concepts (calculation, number properties, probability) and aspects of new machines such as topology, ordered pairs, logic and sets, together with standard fields like time, angles and angles. They follow the same authors' "Mathematical Games 1", developing some of the concepts, and introducing new ones. They have moved away from the flimsy paper sheets of the earlier set.

The use of games from chess, draughts and Go through to today's variety is well established. In a very well-run school, with mathematically educated teachers, games can provide all that is claimed for them—good coverage of mathematical ideas, careful use

of strategies, and a mathematical approach to new problems. It hopes growing numbers of teachers will have their own ideas clearly organized and enough time to make such games work well. The authors realize that games will be only a part of a larger integral one of the total mathematical activity of a class. Movement and operations on numbers are not central to these games. They are attractively printed in several colours and children are playing them. The instructions are not always simple, and need to be gone over beforehand. The six different types are suggested (six different types are suggested) have to be made—English or metric. Unlike some English or metric games, chance only plays a small part in winning. Teachers will need to ensure that the games are of roughly equal ability. More able children cannot play "police" play. It is a strong self-correcting element. It could lead to misunderstanding if teachers conscientiously follow the ground before and afterwards. However, if they should find real benefits in the classroom. The games are neither a short cut, nor a panacea, and the alternatives and extensions suggested are useful.

## Design Council moves to fill materials shortage

by Carolyn O'Grady

Growing interest by the Design Council in design studios in schools was demonstrated this week with the publication of a new book, *About Design*, by Ken Baynes.

The council has already produced a number of new materials for use in schools and a survey, *Design Resources for Teachers*, but the book is the first major attempt to fill the huge gap they claim to have discovered—in the provision of materials and information for teachers on the subject of design.

The council has until recently seen its main role in education as helping those who want to become designers and has published news and information on educational opportunities. However, it now sees emerging, especially in secondary schools, a desire to help pupils to become more visually aware and to encourage them to take responsibility for the environment.

Paul Burrell, the council's publications manager, said it was now taking an increasing interest in design studies in secondary schools. It had received an increasing number of inquiries from teachers for materials and information, and its survey of materials, which resulted in *Design Resources for Teachers*, has revealed a massive gap in provision.

Ken Baynes, research fellow at the Royal College of Art and author of *About Design*, said that RCA research had revealed a substantial development in design education in schools. At present these studies were mainly conducted in isolation by teachers of handicrafts, art, geography and environmental studies, and history.

But while design provided a number of fresh perspectives on subjects such as geography, history and mathematics, he emphasizes in the book that it "is one of a number of subjects that absolutely demand an interdisciplinary treatment".

Research, said Mr Baynes, also indicated a great deal of confusion in schools about the nature of and approaches to design education. What was needed was a book about design which would fit into existing courses, supplement them and help with teachers' background knowledge on the subject.

*About Design* has 160 pages with 160 black and white illustrations. It is available from most bookshops and costs £3.65 or £4.15 by post direct from the Design Council Bookshop, Mail Order, 28 The Haymarket, London SW1.

From a chapter in "About Design" concerned with design in the community.



## Double drills and bulls-eyes

by Paul McGee

Monroe Classroom 88  
Available from EICard International, Didsbury, Manchester M20 0RD. Price £474 excluding VAT.

Educational suppliers' catalogues are filled with a bewildering array of equipment aimed at either preventing Bullock failures or remedying them. But there are few firms which offer such expensive aid as the Classroom 88.

The Classroom 88 is an electronic calculator that is programmed, using read-only memories, to produce questions and answers for drill exercises covering seven topics in elementary arithmetic. There are seven tests in subtraction, seven in addition, seven in multiplication, eight in division, 15 in fractions and nine in decimals.

The 15 in fractions seem out of proportion in view of the diminishing importance of fractions. The 17 tests in number concepts are a counting to the distributive property of multiplication over addition. The machine can also be used as a calculator, giving up to 10 figure accuracy, although obviously not at the same time the student is using it for drill.

To help use the Classroom 88 for drill (or "operation achievement" as the manufacturers say) two manuals are provided. The first is an instructor's guide containing tips for the teacher, such as suggested times for each test (usually 10 to 15 minutes), and a record sheet.

There is a survey test to discover areas of weakness and placement tests for each of the seven areas. The manual says that with the teacher's evaluation and personal experience the tests will ensure the student's success.

The teacher works out the scores for wrong answers from a given total and the use of the Classroom 88 as a calculator is recommended. When a pupil has been assigned a suitable test he uses the second book which contains detailed flowcharts explaining how to operate each programme. The flowcharts are clear, simple and use a minimum of words. The machine can either set a problem and wait for the answer, set a series of problems (e.g. for homework) or produce a series of questions with answers.

The numbers in the tests are randomly generated but within each test they conform to the level of difficulty both in the questions and in the answers.

The student works through an exercise a question at a time, having chosen either an endless set of questions or the fixed numbers of 10 and 25. If he enters an incorrect answer the machine prints a red F for error and the student tries again. If he gives up he can press the bulls-eye button and be told the correct answer, which is printed in red.

After a correct answer the next question is produced. The score is given at the end of the fixed tests or at any time by pressing the score button. The score is important, especially the percentage score, since it allows the teacher to set targets which have to be met before the pupil progresses to further tests.

Recording the dialogue between student and machine on tally rolls uses a lot of paper but does allow the conscientious teacher the chance to look at the paper afterwards if he is trying to find the source of the student's error.

In the fraction tests a red R is printed where the student gives an answer which has not been reduced to simplest terms.

The machine can be used as a calculator but since it is hard to see who would make use of its great accuracy. It has a parenthesis light which comes on while there are unmatched left brackets. The machine signals an error if brackets are nested more than three deep which would limit its use in maths.

It is robust, attractive and simple to use and would probably motivate secondary remedial pupils. With a suggested time of 10 to 15 minutes per pupil it is suitable for groups of five or six with each pupil using it in each lesson. It is, however, very expensive for a machine that produces, marks and scores drill exercises since, and this must be clearly understood, the teacher still teaches the skill or concept.

The manufacturers are probably hoping to attract primary teachers or secondary remedial teachers, who often have skills at teaching reading but are unsure about mathematics and so are unable to produce sufficiently interesting or well-structured worksheets. However, their needs are met rather extensively by this machine which is also rather limited in that it cannot accept new programmes.

The world of microprocessors moves quickly and within the next year it should be possible to buy much cheaper machinery which could accept input from cassette tapes. The tapes and associated teaching material and work sheets could be developed locally, probably at a teachers' centre, and would be more likely to meet local needs than some of the programmes offered by this machine.

In the United States the machine has been bought not only by schools but by PTAs, who use it for out-of-school tuition as well as for normal classroom work. This would certainly be the most enjoyable form of mathematics homework so far suggested. It would also bring home the fact that often the only way to use expensive equipment economically is to have it all working.

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40

## TALKBACK

Ideas,  
argument, experiences,  
research

## Because it makes sense

Peter Mullen

In an age when public religious observance on a grand scale has perhaps irreversibly declined, it is interesting to notice continuing enthusiasm for the Harvest Festival. No doubt this has something to do with habit, tradition and cult. But I think harvest services succeed because they are an example of religion "actually doing something"—collecting the food, holding a special celebration, and distributing the produce to those who need it.

Harvest loses none of its authenticity just because technology puts potatoes in tins and tea in bags. It is the thought, or rather the deed, that counts: a local community showing concern for less affluent members by a gesture which is more than symbolic.

We have had three harvest festivals at our school in my time there. While finding opposition among pupils of secondary school age to the idea of staging dramatic representations of the Passion at Easter and the Nativity at Christmas, I was for a long time amazed at the children's delight in the harvest festival. A multi-racial school, with a few of whom are noted for their traditional religious observances.

But come September, almost before they have been to the notice board to find the time of the first football practice, pupils ask me when they can start bringing their tins and packets. Why such rampant enthusiasm? Well, because the traditional Harvest Festival makes educational sense. For a start it is "pull-centred": it is filled with visual aids—the food and drink—the

children themselves offering those on the stage in the hall; and there is the chance to sing the few remaining well-known non-Christmas hymns. The pupils are in it through-out, from bringing the stuff in the first place to the delivering of it at the end: the aim of the exercise is clear to everyone from the outset. In a well arranged Harvest Festival it can easily be made possible for children to distribute food to those old and needy people most directly and intimately known to them.

Finally, the activity encourages social cohesion and bridges the generation gap. It enables old and young to share an event which, perhaps for different reasons, is significant for them all. So the idea of the Harvest Festival is educationally sound.

But behind the Harvest Festival must be a rationale which is not only educationally but also theologically sound. I write from some painful experience of theological college days, having been reprimanded by a local vicar for daring to assert what seemed to me a truism: if we are meant to praise God for a good harvest, then, logically, shouldn't we blame him for a bad one? For me this argument still holds more than the easy charm of student's dialectic. So what price a theology of harvest, and of all years in this year of the great drought? The vicar's answer to my undergraduate poser was to suggest a roundabout way that logic and theology shouldn't mix. But of course they must: it is theology is to make sense.

A recent option in churches and schools has been to play down the "We plough the field" element and centre the thanksgiving on local factory produce, the kind of prayer that begins, "And for all who work in the industries of our land, especially those who work in the factory, we thank you, O God, for their labour and for the goods they produce. A moment's pause for breath shows that in this time of reunion we are arguably in a better way here than we were with this corn."

I would like to suggest a third

possibility. Let us use the harvest season to deepen our awareness of the being and significance of the natural order; its beauty and its severity; its sparseness and its bounty; its awesome transcendence over our notoring technology. We can do this in just the same way as we're able to celebrate new life in the spring at Easter—without (if we wish) subscription to a particular kind of metaphysics and without belief in the miracle-working deus ex machina. At the same time this approach neither logically nor aesthetically excludes traditional Christian thought.

From meditation on the natural order we can pass to an examination of the place of mankind—not least the school children with their baskets and tins—in the world, in our own country and in the local community. This can best be achieved through suitable poems, prose, music and singing to accompany the pupils' acts of giving. I am looking forward to my fourth Harvest Festival at my school, because it is certainly the most real assembly of the year. It gains its authenticity through the applied synthesis of an educationally sound idea and a piece of theology which is at once true and imaginative.

Peter Mullen is head of religious studies, Whitcroft High School, Bolton.

## Interim report

Robert Wood  
Carolyn M. Ferguson

Since selection within the ILEA will pass from 1977, any comparisons between the exam results achieved at the moment by pupils in grammar and comprehensive schools would seem to be futile. It is important that critics and supporters of comprehensive education should not expect too much too soon. To have some yardsticks against which future performance can be measured could be the necessary corrective. That is why we have analysed the 1974 A level results for students in ILEA maintained secondary schools.

We accept the argument that examination results are only one measure of how well schools are doing. Like all writers, including Baldwin, we believe that right or wrongly, they represent, in the words of the TES leader (Nov 17, 1975), "an external evaluation of some of the things the education system regards as important."

Results for all ILEA colleges entering candidates for London Board O and A level examinations in 1974 were studied. This means nearly all ILEA maintained secondary schools. It would have been possible to analyse 1975 results, but the relevant DES national statistics will not be ready until next June.

To give as near a comparison as possible, we have also analysed London Board A level results obtained by candidates sitting exams offered by other boards. For the best of our knowledge, this report sets 100 per cent coverage at A level.

It has not been possible to augment London O level results with GCE results from other boards or with GCE results, so the O level picture must be a partial one. We concentrate, therefore, on A level, which means that our inquiry is about how the more able students perform in the ILEA maintained system. In terms of A level performance, the 1974 ILEA candidates did less well than candidates across the nation. This in itself is not surprising: what is interesting is that (a) the ILEA grammar performance was more or less identical with that of comprehensives across the nation; and (b) the ILEA comprehensive performance quite resembled that of the national secondary moderns.



It could be said of the first result that in the movement towards parity of academic achievements with the unorganised sector, which is bound to be reached as reorganisation proceeds, comprehensive schools have reached parity with ILEA grammar schools. Whatever the difficulties besetting London schools nationally (and the national figures include those of the ILEA) cannot be doing such a bad job.

It could be said that the second substantiates the view that many of the ILEA comprehensives are "second-rate moderns in all but name." Certainly, if there had not been the wholesale switch to comprehensives, one would expect to find more secondary modern schools in the ILEA.

In the nation boys were more successful than girls, but in the ILEA their achievements were much the same. Has this something to do with the fact that, both nationally and in the ILEA, boys were entered for more subjects than girls? While this strategy worked reasonably well in the nation, in the ILEA it was less successful, with 25 per cent of boys entered for three A levels obtaining 0 or 1 passes compared to 22 per cent in the nation.

Two features, in particular, distinguish ILEA schools from the national picture. The far greater number of single-subject entries (more than 50 per cent of whom had the smaller number of candidates attempting three or more A level subjects. The first difference, in fact, reflects the higher staying power of London and the South-East grammar schools, to more "new" sixth-formers; the second could be said to substantiate the claim that London maintained schools are short of outstanding students.

More of these single-subject entries attended comprehensive schools. In 1974, 25 per cent of the A level candidates from ILEA comprehensives sat one subject and failed it (the corresponding figure for GCE is 10 per cent). If these candidates are removed from the analysis on the grounds that they should not have been entered for A level, the relative

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## Education Department

### headteacher

Seagrave Primary School, Helston Drive, Strelley Estate, Nottingham NG8 6JZ.

Qualified teachers are invited to apply for appointment as Head Teacher of the above school. Number on roll 340. Salary Group 5. Vacant, January 1, 1977.

Application forms and further details may be obtained by forwarding a stamped addressed foolscap envelope to the Director of Education, County Hall, West Bridgford, Nottingham NG2 7QP.

Closing date October 15, 1976.



## Education Department

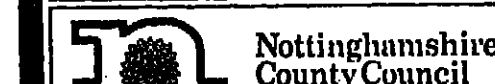
### headteacher

East Markham Primary School, East Markham, Newark, Nottinghamshire

Qualified teachers are invited to apply for appointment as Headteacher of the above school. Number on roll: 100. Salary Group: 3. Vacant: 1st January, 1977.

Application forms and further details may be obtained by forwarding a stamped addressed foolscap envelope to the Director of Education, County Hall, West Bridgford, Nottingham NG2 7QP.

Closing date 11th October, 1976.



## Derbyshire headship

Applications are invited from suitably qualified primary teachers for the Headship of the following school:

Hadfield St. Charles R.C. Primary School, 230 Children, GROUP 4. Closing date 8th October, 1976.

Application forms and particulars for the above post (i.e. a foolscap envelope) from the Director of Education, County Offices, Matlock, Derbyshire DE4 8BQ.

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Applicants should be communicant members of the Church of England.

Application forms and further details available from the Chief Education Officer for Schools (Ref. T3), Town Hall, Crayford, Kent, to whom they should be returned by Monday, 11th October.

## PRIMARY Headships continued

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See pages 80 and 81

















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## A contribution to careers

By Catherine Avent

It is now fairly well accepted that boys and girls between the ages of 14 and 16 ought to have regular and systematic careers education. There must be few schools which do not have a designated careers teacher. Most large schools have careers departments in which teachers may not be employed solely on careers work but where there is a chance for staff, of all subjects, to make specific contributions to the careers curriculum. The maths department has a very special part to play here.

Any group of maths teachers would claim at once that it is already doing some careers education work. Classes on budgeting, measurement and elementary statistics form part of an ordinary maths course in many schools, but there are still plenty of leavers who get into difficulties when they start work because they have never had to work their way through something that was not in periods time-tabled "maths" and was neglected in the careers curriculum, if there was such a thing.

There are still schools where careers does not figure anywhere in the timetable and others where the careers master only points proudly to speakers invited in to talk about jobs in building, engineering, and banking, from a list worked out with the local careers officer.

The following suggestions are not original. They are given as a simple check list for any maths teacher who is interested in the idea of participating in careers education or head of a careers department who is anxious to involve as many as possible of his staffroom colleagues in preparing students for the transition from school to work or higher education.

Classes on budgeting and money management would obviously include discussion and practical work on income tax, social security and insurance, including perhaps a study of comparative premium rates for life insurance, insurance of a motor vehicle and household effects. Savings and investment should be considered as well as hire-purchase and its advantages and pitfalls.

A class on the cost of living could draw on the pupils' knowledge of the price of clothing, entertainment and hobbies. This could lead to practical information and calculations based on average rent, rates, heating, lighting, transport to work, clothing and food. Girls have often done practical exercises in home economics based upon the cost of preparing a meal of certain quality and comparative shopping.

As a supplement to the work done on metric systems, there can be practical exercises undertaken perhaps in conjunction with local firms to find the extent to which very accurate measurements are required in different jobs. Girls who say they cannot do simple arithmetic can find themselves with heavy responsibility measuring out quantities of drugs as young nurses. Boys discover that a job in building is not just going to make use of their practical skills but that they will have to do sums and accurate measurements. A look at the syllabus for City and Guilds Certificates in a number of trades will show the level of arithmetical competence which sometimes surprises apprentices when they start work.

Statistics can prove fascinating even to those pupils who say they hate maths or cannot do it. There are a number of ways in which statistical exercises can promote understanding in the world of work and prove helpful to pupils before they choose their jobs. The careers teacher can easily produce material.

He or she has pamphlets outlining the salary scales for a number of different jobs and the pupils can draw graphs to show the progression up a wage scale of, say, a civil service clerical assistant, a bank clerk, a junior postman, or an RAF apprentice. A more sophisticated exercise can be done to calculate the gross return over a working life from different types of qualification and career.

The case of mythical twins whose education led to the same qualifications but was used in different employment can show the advantages of a career.

There are many other ways in which statistics can be used in careers material. Pupils can be asked to use rates, proportions, percentages, and averages in different institutions, exam rates, proportion of acceptance, rates, regional and local, plotted over a period of time.

Sixth-formers' business demand a level of arithmetical competence which is beyond the scope of a career studies teacher who wants to include them in the curriculum. They are played by the companies, for example, part of the work for a class of 20 or more who may have no idea of applying for a job in a firm. They learn a lot about decisions from these games. They can be more useful than the work experience which is increasingly demanded by teachers, but harder to obtain in the present case situation.

Finally, a head of a career department can look to his or her mathematical colleagues for help in utilizing careers with a mathematical basis. If the maths room has a notice board, careers information can be pinned on it. This does mean the obvious careers: accountancy, engineering, scientific research, but also common like actuarial and printer work, and market research.

Catherine Avent is ILEA CSE Guidance Inspector. The views expressed are those of the author and not necessarily those of ILEA.

## Using favourite ideas

Peter Kaner on the Mathematics for the Majority Continuation Project

Industry never believes it, but school mathematics does look forward to the child's future life as worker and producer. If anything, it takes a wider view than any individual teacher. This is quite right. The school pupils will provide society with its mathematicians as well as its manual workers and all possible applications have to be considered. Where industry may have a justifiable case is that mathematics is rarely taught within the context of problem solving. Oddly enough, the main complaints do not relate to this aspect but rather to the view of employees as human computers.

"Cannot do calculations in simple fractions", the recruiting officers complain. What was the context of the calculation one asks, and there is rarely any answer.

Is this what industry really means, people to calculate fractions without context? Quite the contrary, I would have thought. It is quite easy to find a situation where there is a problem for you to solve. The managing director of a small engineering firm told me that he considered the most important mathematical skills in his work force to be:

Ordering—Starting up and closing down machines (safely) and fitting parts.  
 Tolerances—When a product is acceptable. When a machine tool has lost efficiency and requires replacement.  
 Spatial concepts—How to cut to minimise waste of material, etc.

Optimization—Recognition that productivity could be increased by changing routines, etc.  
 Reading data in tables and graphs.  
 A special requirement

was the prediction from such data when it was on a time base. For example, if the readings of a furnace temperature indicated a failure of the furnace, the prediction was that the furnace would fail at a certain time.

Mathematical language of management—Necessary in the negotiation of such things as bonus rates, overtime schemes, productivity bonuses and special benefits such as pension rights. It is also basic where there is a need to develop worker participation in management.

It would be difficult to match this forward looking collection of skills with those provided for the average pupils by schools. Nor would it be matched by those Jeremiah of industry and education who cry for a return to the good old days of 100 per cent computational skill (was such a thing ever achieved?). Even the courses in further education where the calculations are placed in the context of specific practical skills would fail to supply the general mathematical

intelligence so necessary in the industry in its non-technical work.

For a long time now mathematics has been used as the selection test by which it is decided who will qualify at both technical and technological level in further education. There is of course a sad and a ridiculous need to do this. It is a sad need that still exists as we find in the higher education courses?

Advanced calculus techniques solving difficult differential equations are part of the syllabus of mathematics and taught by teachers who may not know any other subject and still find the subject difficult. Are we using mathematics as a hurdle here? Is it necessary for a specialised engineering course?

At the other end of the scale and in some schools we find small movements towards teaching mathematics which is applicable to the general, non-technical needs of older school children. The worldwide trend, as would have been noticed by anyone attending the International Congress in Mathematics Education in 1974, is to talk about mathematics and how school mathematics should be altered to make this style of mathematics more relevant to the needs of the majority.

Not too much seems to have been done but one project at least serves as a model for the future. It is the Mathematics for the Majority Continuation Project, a project of the London Education Authority.

Council exercise to provide materials for non-academic pupils aged 14 to 16 years. The project used the following ideas: a large number of teachers in the

Continued from page 50  
 land, Wales and Northern Ireland in the area of mathematics related to the environment.

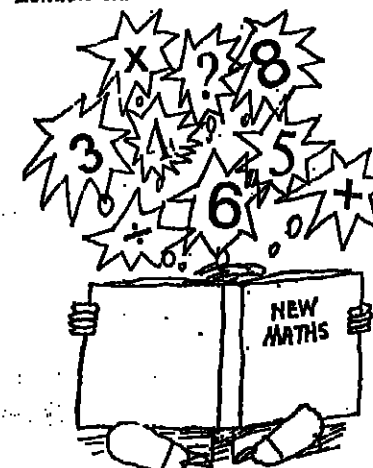
The mathematical concepts in this project are invariably presented in some applied context such as building, travelling, running a home, working in a factory, farming. The excellent influence of this material on some lower ability pupils (for whom it was originally intended) has made us wonder whether it is not time to restructure the general mathematics programme in school to include more environment related activities.

Recruiting officers should take care, in their voracious demand for a return to more techniques, orientated mathematics teaching, they do not, in fact, kill at birth a reform which in the long run will be of great advantage to British industry.

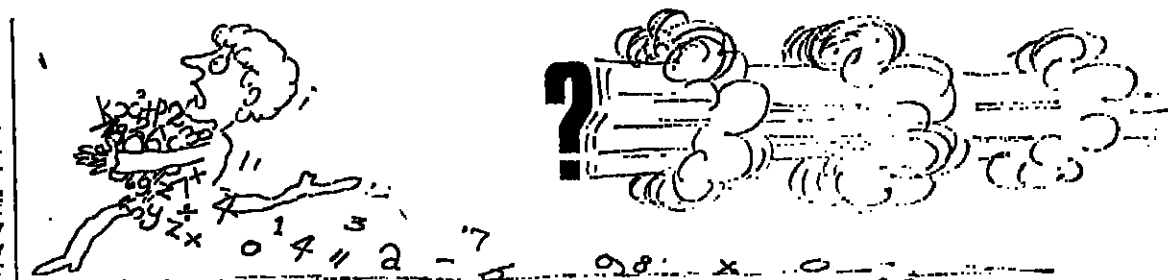
Mathematics for the Majority Continuation Project 1971-75 sponsored by Schools Council at Exeter University. Materials published by Schofield and Sims Ltd., Huddersfield.

Peter Kaner is an inspector at the ILEA and former director of the Schools Council MMCP.

Note: the writer's views are not necessarily those of the Inner London Education Authority.



## Links with industry



## Taking account of the changes

A. P. W. Collins on the contribution of the London borough of Hillingdon to cooperation between employers and educationists

During the past 15 to 20 years there has been a considerable change in both the content of school mathematics and the way in which the new and the old mathematical ideas are being taught. This change has involved the schools in Hillingdon as well as throughout the country. Employers allege that during recent years there has been a decline in the level of numeracy displayed by applicants for craft and technician apprenticeships who were leaving school at 16 plus.

The change in school mathematics together with the lowering of the standard of numeracy led Mr J. Regard (then a careers officer in Hillingdon) and myself to convene a meeting in February, 1974, involving educationists and employers in and around the borough. From this meeting various actions emerged. A working party comprising educationists and employers was set up to look at ways in which employers could take account of the change in mathematics and ways in which the level of numeracy could be improved. The working party was of the opinion that selection tests in modern mathematics were needed for pupils who had undertaken such a course.

It was also agreed that existing

tests in traditional mathematics needed reviewing, but decided to look at the former first.

As far as modern mathematics was concerned the working party set out to devise a bank of questions based on modern mathematics which could be used by employers as part of their selection procedure. 111 questions were written for this bank, covering the topics in a modern syllabus that were not being tested by employers, namely matrices, number systems, topology, probability and statistics, sets and relations, vectors and geometric transformations. Where possible, questions tested numerical skills within the framework of modern concepts and language.

As employers would be marking the tests themselves and were generally without detailed knowledge of modern mathematics the questions were constructed in a right/wrong mode allowing marking to be done by rote. Sets of answers were produced. Because of the need to construct questions in this mode certain problems arose. For example, one question could be:

$$\begin{pmatrix} 1 & 2 \\ 3 & 4 \end{pmatrix} \times \begin{pmatrix} 5 & 6 \\ 7 & 8 \end{pmatrix} = \begin{pmatrix} & \\ & \end{pmatrix}$$

requiring four correct elements for the answer.

Should a mark be allocated for each correct element? Should one mark be allocated if the four elements are correct and no mark if one or more elements are incorrect? It was decided that for this question weighting and that no marks for three correct elements would miss the points being tested. It was decided that if two or more of the four elements were correct then one mark should be given. If the candidate had shown an understanding of matrix multiplication and an ability to multiply two pairs of numbers together and add the results, this indicated understanding and the ability to multiply and add.

It should not be thought, however, that the working party did not realize the importance of getting all the elements correct; it believed that near enough was not good enough, but employers were looking for ability which could be polished if necessary. When completed, the bank was divided into three tests of 37 questions and each test was taken by some 500 fifteen-form pupils in local secondary schools. These were pupils of all

abilities and the tests were set under standardized conditions.

The results of these tests were passed to the Army Personnel Research Establishment (APRE) at Farnborough, Hampshire, which kindly processed them and produced an analysis which validated and graded the questions in the bank. Seventy-six questions proved to be good and those now comprised the new bank from which selection tests would be constructed. By considering the grading of these 80 questions it was possible to attempt to construct a technician apprenticeship test of 27 questions from the harder questions and a craft apprenticeship test of 22 questions from the easier questions with some overlap.

Care was taken to construct each paper so that it included a balanced selection of modern topics. These two tests were then pre-tested using more than 100 students at two local technical colleges for each. These students were already craft or technician apprentices and they attempted the relevant papers. From the results of this pre-test norm tables for each test were produced.

Both tests proved to be satisfactory with good reliability coefficients. The time allowed for each is 45 minutes. These tests are now available to employers to use as part of their selection procedures and some local employers are already using them and many others are showing a great interest and are thinking of using them.

It is the view of the working party that employers may well miss applicants with good potential if a selection test does not relate both to the kind of mathematics that has been learnt and the mathematical language used during recent years of study. Should an applicant score well on such a test then he would have demonstrated an ability to perform successfully on the mathematics he had covered. This would indicate that there was every reason to believe that he would soon be able to grasp and be successful at areas of mathematics

continued on page 53

John Murray

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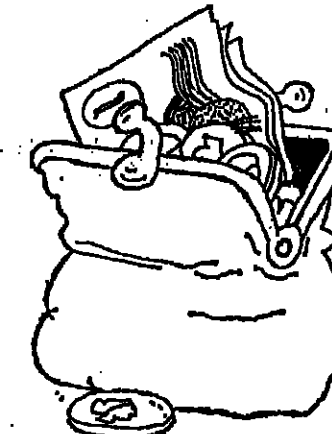
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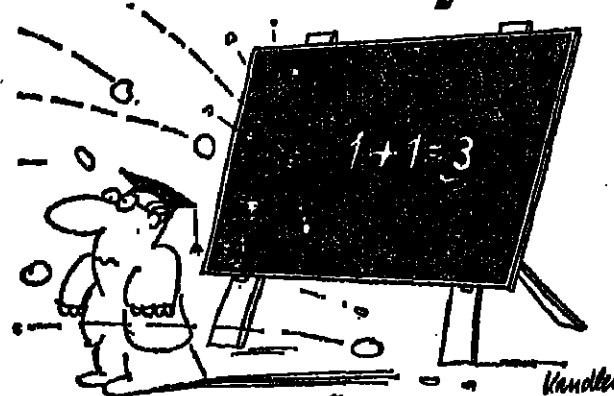
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## Examinations and syllabuses

### A question to answer

If the new Certificate of Education is adopted, what kind of examination do we want? asks Douglas Quadling



So, to nobody's surprise, the Schools Council has recommended that the proposals for a new Certificate of Education (the 16 plus) should go ahead. Now it is for the Minister to decide, and of course many people are impatient for her to do so.

But, let us not ignore the positive virtues of the ritual pause which our leaders impose upon themselves at this juncture. In the present instance, it gives us the opportunity to ask ourselves "What kind of examination do we want?"

Many hard things have been said about the feasibility studies sponsored by the council and put into operation by the CSE and GCE boards, but we need to be quite clear that this question was not one which they set out to answer. The studies provide important evidence about the forms of examination which are or are not practicable and desirable over this ability-range, but they were not exercises in syllabus development—nor could they have been without a much longer time-scale.

What inevitably happened within the consortia was that GCE and CSE syllabuses were put together, matched up in detail where they overlapped and had a little lopped off at either end. This was adequate for trying out the effect of testing the given population within a single examination structure. But we face the future with a blank sheet of paper on the table.

Mathematicians may find it congenial to begin an analysis of the problem with a few axioms and theorems:

**Axiom 1:** An examination should enable any bona fide candidate to demonstrate his or her knowledge of the subject.

**Theorem 1:** No candidate who has worked hard should be required to take a paper which he cannot expect to be able to answer.

**Axiom 2:** There is no virtue in adopting a new system of examining which leaves the interests of any candidate or user less well than that which it replaces.

**Theorem 2:** Any new examination at 16 plus should offer a reasonable challenge to every candidate.

**Axiom 3:** A very wide divergence of mathematical aptitude is evident among pupils by the age of 16.

**Axiom 4:** Students should spend as little time being examined as is

consistent with the requirements of reliable testing.

**Theorem 3:** It is impossible to devise a satisfactory single mathematics examination over a wide ability range.

This, too, was the evidence of the feasibility studies. The Schools Council's mathematics committee reported on these as follows: "It appears that the difficulties have been most successfully overcome in those feasibility studies which operated a grade-range system of examining, in which candidates enter for the papers at the most appropriate level for themselves."

"Although this still forces teachers and pupils to make a choice between papers, this choice is not so stark as that between entering for GCE or CSE, and the existence of 'overlap' papers makes possible statistical adjustment in the weighting of marks which could reduce the effect of a bad choice; it may be also that the choice of papers could be made later than the present choice, between examinations."

"Another advantage is that the amount of examination time is shorter if pupils are not tested at levels inappropriate to them."

My personal preference for the external component of a Mode 1 examination for this target group would be a range of four papers of which each candidate would choose to offer two.

Such an arrangement would give ample scope for able fifth formers to be examined on a more extended syllabus—to get a whiff of calculus to handle ideas of mathematical proof—to undertake a comprehensive survey of geometrical transformations—without distorting the curriculum of the majority.

It would allow pupils at different stages of development to be tested at different cognitive levels on common areas of the syllabus. At the lower end, a paper could be set, testing pupils in concrete situations through questions expressed in deliberately simple language. Such a system could be very flexible.

For example, there is no reason why an able candidate, who chooses to play safe and offer the middle two papers, should not, by doing well enough, qualify for the highest grade; and if it were found that pupils further down the ability scale than intended were presenting themselves for examination, their needs could be catered for by a fifth, even simpler, paper within the same framework.

So much for structure. What about content? Here the main hope must surely be that syllabus development for a new examination will sound the death-knell of the dichotomy between traditional and modern mathematics which has bedevilled the school scene for the past 15 years.

Of course, it could be that the Minister decided not to approve the Schools Council's proposals. Either way, trying to answer the question will not be a waste of time.

**Douglas Quadling** is mathematics tutor at the Cambridge Institute of Education.

Let me express one last thought. Mathematics, teaching has been under fire from many quarters: the past few years, particularly the employers of young school leavers, of whom will be young candidates for the proposed examination. Not all the critics justified, nor are all the claims reasonable. But there is one smoke to suggest that there is a fire.

In setting up a new examination (whether in Mode 1, 1F or 16 plus), we demonstrate our respect for society and to our pupils, agreeing on a body of basic mathematical knowledge that we will include in our syllabuses and guaranteeing that it will be tested. Nothing could do more to restore the confidence of commerce and industry in school mathematics.

Of course, it could be that the Minister decided not to approve the Schools Council's proposals. Either way, trying to answer the question will not be a waste of time.

**Douglas Quadling** is mathematics tutor at the Cambridge Institute of Education.

We all need to re-examine our position. For modern mathematics, the insights into the very nature of mathematics itself.

The error we have made is to confuse means with ends. There are many ways in which sets can be taught, from the primitive counting and operations through to the definition of geometrical concepts and understanding solutions of equations and definition of probability.

Flow charts can bring abstract concepts of function and algebraic relationships, and the existence of "overlap" papers makes possible statistical adjustment in the weighting of marks which could reduce the effect of a bad choice; it may be also that the choice of papers could be made later than the present choice, between examinations."

"Although this still forces teachers and pupils to make a choice between papers, this choice is not so stark as that between entering for GCE or CSE, and the existence of 'overlap' papers makes possible statistical adjustment in the weighting of marks which could reduce the effect of a bad choice; it may be also that the choice of papers could be made later than the present choice, between examinations."

"Another advantage is that the amount of examination time is shorter if pupils are not tested at levels inappropriate to them."

My personal preference for the external component of a Mode 1 examination for this target group would be a range of four papers of which each candidate would choose to offer two.

Such an arrangement would give ample scope for able fifth formers to be examined on a more extended syllabus—to get a whiff of calculus to handle ideas of mathematical proof—to undertake a comprehensive survey of geometrical transformations—without distorting the curriculum of the majority.

It would allow pupils at different stages of development to be tested at different cognitive levels on common areas of the syllabus. At the lower end, a paper could be set, testing pupils in concrete situations through questions expressed in deliberately simple language. Such a system could be very flexible.

For example, there is no reason why an able candidate, who chooses to play safe and offer the middle two papers, should not, by doing well enough, qualify for the highest grade; and if it were found that pupils further down the ability scale than intended were presenting themselves for examination, their needs could be catered for by a fifth, even simpler, paper within the same framework.

So much for structure. What about content? Here the main hope must surely be that syllabus development for a new examination will sound the death-knell of the dichotomy between traditional and modern mathematics which has bedevilled the school scene for the past 15 years.

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Let me express one last thought. Mathematics, teaching has been under fire from many quarters: the past few years, particularly the employers of young school leavers, of whom will be young candidates for the proposed examination. Not all the critics justified, nor are all the claims reasonable. But there is one smoke to suggest that there is a fire.

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## Examinations and syllabuses

### Waiting to hear from you

Margaret Brown on the seven reports that may determine the course of sixth-form mathematics in the eighties

Seven groups of people, spread around the country, are each at this moment very likely to be agonizing over the question of what report will determine the course of sixth-form mathematics in the eighties.

For, to inform the public debate over the value of adopting five subject N and F level curriculum in the sixth form in place of the present three-subject A level, the Schools Council has set up a steering committee in mathematics (as in other subjects), which has commissioned these seven reports.

Although each report will be written to a different brief, each will contain a statement of the aims of a course in mathematics leading to either one or two N or F level subjects, together with syllabuses, schemes of assessment, specimen examination papers, and general notes for guidance.

During the academic year 1977-78, the mathematics department in every maintained school, college and university will receive a verbatim copy of the reports of the seven groups and an overall report of the steering committee.

The Schools Council hopes that each maths department will meet to discuss the documents, and to put its views, the curriculum, the teachers' unions will also, of course, contribute their own comments and the officers of the Schools Council will have the difficult job of sifting through all the submitted evidence in order to prepare a report to the Governing Council.

The briefs of the seven groups

set up in mathematics are:

● A curriculum leading to both single subject (mathematics) and double subject (mathematics and further mathematics) examinations, each at both Normal and Further levels, to cover both pure mathematics, and applications of mathematics, and to take account of both traditional and modern views. (Commissioned from the University of London School Examinations Department.)

● Single subject syllabuses, both N and F, in each of pure mathematics, applied mathematics and statistics. Here it is assumed that students following the applied mathematics or statistics courses will be receiving support for the pure mathematical requirements of these syllabuses either by studying pure mathematics concurrently or in some other way. (Commissioned from the University of Cambridge Local Examinations Syndicate.)

● A syllabus combining a basic core of mathematics and mathematical applications with a wide range of options from which schools or pupils may make a selection to qualifications in mathematics either as a single subject or a double subject at either N or F level. (Commissioned from the Mathematical Association, in conjunction with Chelsea College Centre for Science Education.)

● A course in statistics, leading to N and F examinations, capable of standing on its own without supporting mathematics beyond O level/CSE standard. (Commissioned from the Committee on Statistical Education.)

● A course leading to N and F examinations designed for students wishing to study mathematics with a special emphasis on its applicability. (Commissioned from the Schools Council Sixth-Form Mathematics Project at Reading University.)

● An N level course in mathematical awareness, having for its aim the interpretation of mathematical activity rather than the development of specific skills. It is hoped that this course might play a special role in the curriculum of arts students and intending teachers not wishing to specialize in mathematics. (Commissioned from the Mathematics Section of the National Association of Teachers in Further and Higher Education.)

● A study emphasizing the role of individual investigation together with process abilities in the learning of mathematics and leading to a qualification at either N or F level. (Commissioned from the Association of Teachers of Mathematics and based at the Shell Centre for Mathematical Education, Nottingham University.)

While none of the courses proposed in these reports would necessarily be offered if an N and F level curriculum were adopted, it is clear that they would form a basis for the planning of examination boards.

I am most concerned with the third of the studies listed above. Some of the difficulties we have come across in designing a curriculum to fit our brief are worth describing.

The great attraction of a modular system, leaving students, or schools, free to select a course from an à la carte programme of modules, was the flexibility which could be provided to cater for the wide needs, and ever-wider abilities, of those who might choose at least an N level course under a new system.

However, faced by the restraints imposed by school organization and the needs of employers and higher education, and by the recognition that there was some mathematics we felt all students following a sixth-form course in mathematics ought to meet, we have retreated to a scheme for the basic N level, of which eight modules consists of a core of applicable mathematics, and the final one ninth is made up of one option in the area of either calculus, statistics, mechanics or complex numbers.

We are still working on a complete freedom of choice of modules to top up the basic N to an F level (which will require evidence of deeper understanding as well as greater coverage) and also for the minority of students who may choose to do a second N (or F) in mathematics, just as some today follow two mathematics A level subjects.

The modules proposed range from symbolic logic and pure geometry to statistical sampling and applications, of differential equations, with one which consists only of an investigation carried out by the student.

One of the major problems posed

adequate grounding in the subject. Piaget argues that a true understanding of ratio comes only when the child has reached the stage of formal operations. Certainly many of the ratio questions set in school textbooks appear to be too difficult for the children for whom they are intended. The fault may be in our presentation of the topic or it may be that this whole section of mathematics should be postponed until the child is older.

A child's understanding of other mathematics topics seems to be

by the scheme stems from the complexity of the assessment procedure needed when the number of possible selections of modules is so large. However we have tried to overcome this in the interests of maintaining flexibility; after all, the universities and polytechnics manage to run modular courses satisfactorily even if they do have the advantages of complete internal assessment.

In two other ways our study differs from any of the others in mathematics. First, we have tried to test the feasibility of the syllabus by writing draft teaching materials, an effort which, although shared by all the committees, has been greatly assisted by the two-term secondment of our chairman, John Horsey, on a grant from Chelsea College.

Second, our committee is very large—25 members who represent a spectrum of views ranging from those who are very much opposed to any change in the present system, to those who would like to see considerable modifications in the way that mathematics is taught in sixth forms.

While this makes consensus far from easy, and sometimes impossible, it certainly makes for the kind of healthy discussion of all the issues which the Schools Council wishes to provoke countrywide over the next two years.

*Margaret Brown is a member of the staff of the Centre for Science Education, Chelsea College, University of London.*

### Investigating concepts

By Kathleen Hart

Concepts in Secondary Mathematics and Science is a research project financed by the Social Science Research Council housed at Chelsea College. The mathematics section of the research team is closest to many of whom will be young candidates for the proposed examination. Not all the critics justified, nor are all the claims reasonable. But there is one smoke to suggest that there is a fire.

In setting up a new examination (whether in Mode 1, 1F or 16 plus), we demonstrate our respect for society and to our pupils, agreeing on a body of basic mathematical knowledge that we will include in our syllabuses and guaranteeing that it will be tested. Nothing could do more to restore the confidence of commerce and industry in school mathematics.

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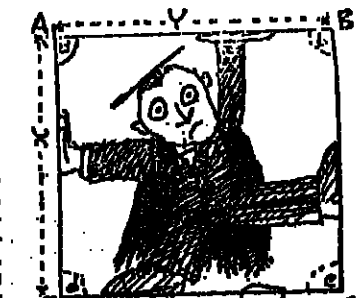
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this strategy and 50 per cent of the children used addition on this question.

The topic of percentage is taught in most schools before the third form; yet children appear to have little success with questions using percentage. Asked to reduce £20 by five per cent, 40 per cent of the preliminary sample subtracted 5 from 20 or divided 20 by 5 and then obtained 16 by subtraction. These pupils measure, when a child faced with two numbers will use one of the four basic operations at random without seemingly understanding the question, occur in tests on algebra and graphs as well.

Graphs are taught now in a great many primary schools, besides appearing early in secondary school courses. Despite this early introduction, travel graphs and equations of straight lines proved to be very difficult. Many children interpreted the travel graphs by describing the picture in terms of "going up", "turning left", etc., completely missing the time-distance relationship.

There was no noticeable difference between the incorrect responses of fourth and second years. Only one third of the 500 children in the graph test sample were able

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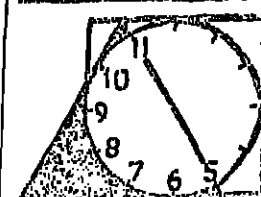
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## Examinations and syllabuses

## Mathematics 5-11

A revised and extended version of the Nuffield Mathematics Teaching Project. Introduced by Eric Allen



When the original Nuffield Mathematics Teaching Project was set up in 1964, Professor Geoffrey Matthews and the team of writers were told that primary teachers wanted encouragement, a chance to experiment and plenty of guidance on the "how" and "what" of mathematics teaching. The team was left in no doubt that what teachers did not want was a package deal consisting of textbooks and work-cards.

Experience has shown that the teachers were right and the team was wise in not attempting to push a highly structured scheme at that moment. Teachers needed time to adjust and experiment—"I do and I understand" applies as much to teachers as it does to children.

As the writing progressed, teachers became more confident and more critical at times, scathingly so. The team was delighted to be told by teachers at meetings: "We think our workbooks are better than those in the teachers' guides". From the first tentative meetings at the local maths centre, things snowballed until area committees and working parties of teachers began to write schemes of work or outlines based on the guides but geared towards local needs and preferences.

After the original project officially came to an end, the Nuffield Mathematics National Committee was formed. Several "regions" were set up, and are still being set up, to continue and extend the project's work. Within these regional organizations, writing teams of teachers, advisers and college lecturers have for some time been producing schemes and pupils' materials based on classroom experience. Extracts from some of these schemes were published in section 2 of *A Guide to the Guides* which, in its introduction, says: "It is the teachers' own ideas and some sort of scheme of work, outline or framework is necessary if we are to plan our approach to mathematics teaching... we would expect to find the vast majority of teachers who, whilst requiring some sort of direction and overall plan for their teaching, do not wish to be tied to a line-by-line syllabus. The problem would seem to be how to produce a scheme which is structured enough to be of help without being so rigid that it stifles the imagination and 'flair' of the individual teacher."

Teachers are now ready for Nuffield Mark II. Accordingly, the Mathematics 5-11 Project was started on 1 January, 1976. Avoiding an over-rigid structure, the project aims to provide a framework which is both flexible and feasible. The emphasis will be on diverse approaches rather than descriptions of ideal practice. Pupils' materials, suitable for the primary stage, will be published by Longman's after tests on content and format. Infant level trials are taking place and junior level tests will follow early next year.

The revolution in primary school maths has brought about changes in content and method. Over the past 10 years or more teachers have been selecting and rejecting—picking out the best of the old and the new in maths teaching. They have been experimenting with new methods and materials, and have been planning, in different types of organization—teaching classes, teams, groups and individuals.

It is not surprising, therefore, that the mathematics menu, there is some disagreement on the order and importance of courses, a great deal of personal preference about how they should be cooked and a wide variety of serving methods. This is a service only, family service in groups, the catering system and the self-catering system. However, some mathematical disciplines have suggested the, in attempting to improve on the traditional arithmetic, we may have been offering too wide a choice of exotic dishes, and not paying enough attention to the basic ingredients.

As maths teaching has made the transition from what has been called B.C. (before Cuisenaire) to A.D. (after Dienes), the word "concept" has loomed large in teachers' discussions and thinking. "Teaching with understanding" has been the battle cry—and rightly so—but we should not forget facility. Concepts and skills need to be closely linked. Some years ago I visited a class of nine-year-olds who were all eager to show me several pages of beautifully presented and accurate sums involving yards, feet and inches. The teacher suggested that

5-11 project began. I spoke to the teachers about their problems and asked what they would like the project to do. I am very grateful to those who wrote at great length, listing their difficulties and offering suggestions. It is obvious that, in the time spent on this process and the time spent on testing and reinforcing it.

One of the remarks made at the time of the original project was often misquoted since, was in effect that "... if children are not used to spend as much time on repetitive practice or drill, it haps the words in italics have been stressed for more some cases, it has been said that understanding a process is a more difficult task than using it."

Another problem mentioned frequently, particularly by teachers younger children, concern the gauge. The maths 5-11 project emphasizes the importance of a gauge. Each chapter, in a teacher's handbook, will contain a vocabulary section listing the words to be used and understood by the children for them to appreciate and use for mathematical relationships.

Among the earliest materials produced by the project are six colourful reading booklets. The will contain keywords relating concepts fundamental to mathematics. This is an attempt to overcome the objection that "They can't read a words on the work sheets."

At the infant level, work will be produced and ideas in additional materials will be included in the accompanying teacher's book which will also contain practical, down-to-earth suggestions for activities, stories, models and the use of apparatus either home-made or commercially available.

At junior level, a core/branch system will be used. A core of textbooks, each accompanied by teacher's handbook and containing about one year's work, is planned. The teacher will choose from the branches to provide opportunities for practice and reinforcement, and offer help in remembering important facts and "tables".

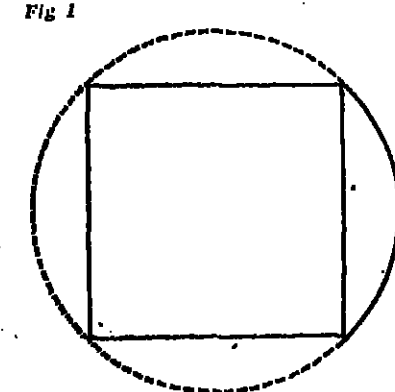
The "branches" will be devoted to supplementary topics, devoted to single topics. These will attempt to cover a wide range of abilities and meet the needs of different types of organization in a school. Some supplementary booklets already planned are: extended number work, puzzles and games, mathematical subjects and simple surveys. The school would use the stream-lined and choose from the supplementary booklets to suit the school's special needs. There is little doubt that this approach to maths teaching, continued on page 57

## For the fun of it

## Circle squarers

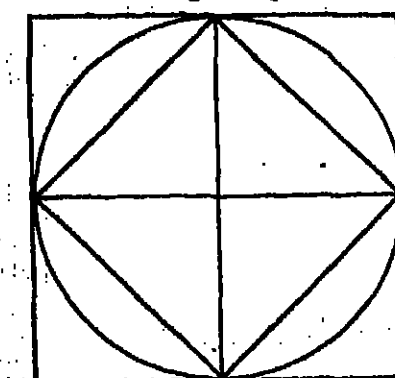
By Canon D. B. Eperon, with acknowledgments to Lewis Carroll

Part I of *Curiosa Mathematica* by the Revd. C. L. Dodgson (alias Lewis Carroll) was called "A New Theory of Parallels". The frontispiece was this diagram:



with the caption: IN EVERY CIRCLE THE INSCRIBED SQUARE IS GREATER THAN ANY ONE OF THE SEGMENTS THAT LIE OUTSIDE. This was his own axiom, that he used as the basis for a chain of propositions that led to a proof of Euclid's twelfth axiom about parallel lines. Alice's comment on this might well have been, "Curiouser and curiouser."

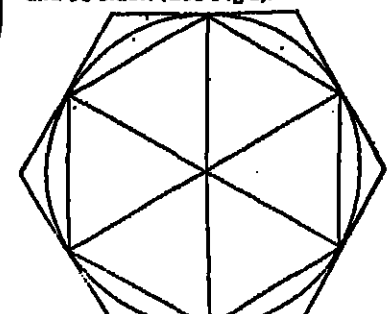
The regular tetragon is Carroll's quaint phrase for the four-sided shape known as a square, and although it is obvious to the naked eye that the area of the square is greater than any one of the segments that lie between its sides and the circumference of the circle, it is doubtful whether the novel axiom is better than the axioms of Euclid or Playfair that are usually quoted in textbooks of geometry.



The diagram in Fig 2 shows that the area of a circle with radius  $R$  is less than the area of a circumscribing square, which is  $4R^2$ , and greater than the area of the inscribed square, which is  $R^2$ .

cried square, which is  $2R^2$ , and so a rough approximation to the area of the circle is  $3R^2$ .

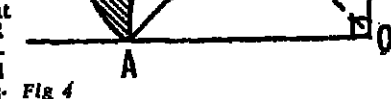
Early Greek geometers had tried to "square the circle", i.e. to construct a square equal in area to that of a circle, using a ruler and compasses only. This we now know is an impossible task, but men like Archimedes found better approximations for the area of a circle, by calculating the areas of circumscribed and inscribed hexagons, and of regular polygons with 12, 24, 48 and 96 sides. (See Fig 3).



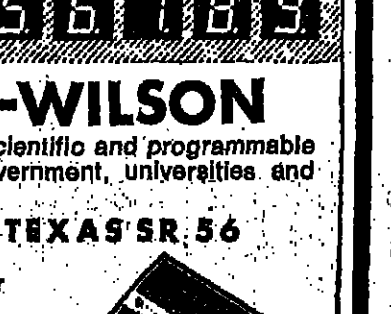
In modern notation the area of a circle is  $\pi R^2$  where  $\pi$  lies between  $1/8$  and  $3/17$ ;  $25/8$  is too small, but  $22/7$  is closer to the actual value of  $\pi$  (3.1415926535...). though it is correct only to three significant figures.

Problem 1. Taking  $\pi = 22/7$ , show that in Fig 1 the area of the circle is about seven times the area of one segment.

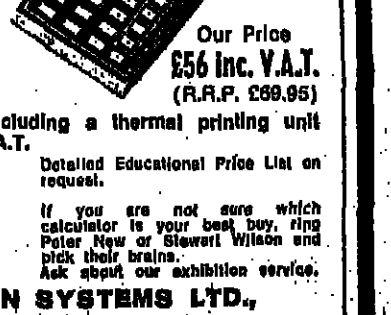
Hopes of "squaring the circle" geometrically were raised by the discovery that it was possible to construct a square equal in area to the "lune", shown shaded in Fig 4, which is bounded by arcs of two circles. OA and OB are perpendicular radii of a circle, centre O, the arc AB being one-quarter of its circumference; the outer arc is a semicircle on AB as diameter.



Problem 2. X is the area of the lune, Y the area of the segment, and Z is the area of the right-angled triangle AOB. Show that  $X+Y$  (the area of the semicircle) is the same as  $YZ$  (the area of the quadrant— $1/4 \pi R^2$ ). Deduce that the area of the lune is the same as the area of the triangle, which can be cut into two halves that form a square.



Problem 3. Show that the sum of the areas of the four lunes in Fig 5 is the same as the area of the square inscribed in the circle.



Problem 4. In Fig 6 ABC is an equilateral triangle inscribed in a circle, centre O, radius R, with semicircles drawn on each of its sides, outside the circle, forming three lunes. If T is the area of each triangle, BOC, COA, AOB, S the area of each segment and U the area of each lune, find the values of T, S and U in terms of the radius R.

Problem 5. Although it is not possible to construct a square equal in area to one of the lunes in Fig 6, it is possible to construct a square equal in area to the sum of the two lunes in Fig 7, where ABC is a right-angled triangle with semicircles on each of its sides. (Use Pythagoras's Theorem to show that the semicircle on AB as diameter is equal in area to the sum of the semicircles on AC and BC as diameters.) Deduce that  $P+R=T$ .

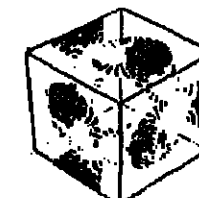
continued on page 58

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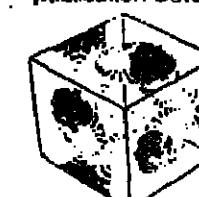
The main course is in nine stages, each covered by pupils' book, teachers' book, progress papers and answer key. Below are listed three important projects which develop and supplement the main course.



## Mathsheets

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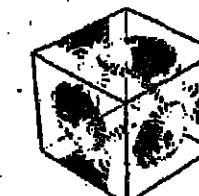
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## JOBS... JOBS... JOBS

Look in the Appointments section of the Classified pages.

The Times Educational Supplement

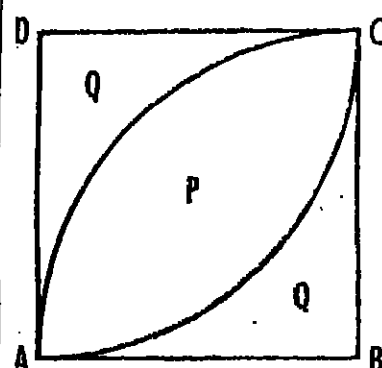


# The Association of Teachers of Mathematics

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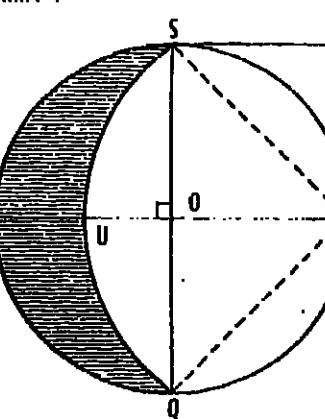
continued from page 53  
he realised that he had no chance of success. Perhaps he abandoned the proposed book, because he realised that no circle-squarer could ever understand plain facts.



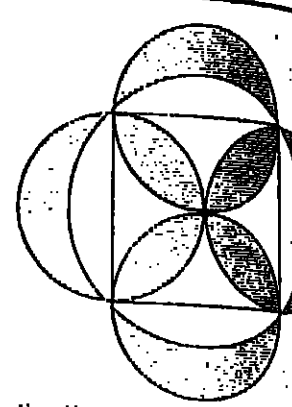
Problem 6: In Fig 8 ABCD is a square, and arcs of circles with centres at B and D pass through A and C. The area marked P (greater or less than the sum of the areas marked Q?)

For the fun of it

Problem 7: Is the area of a circle more or less than three-quarters of the area of a circumscribed square?



Problem 8: In Fig 9 PR, QS are perpendicular diameters of a circle, centre O. OUS is an arc of a circle, centre P, and PUST is a square. Show that the area of the lune (shaded) is equal to that of the square.



Problem 9: Shaded lunes in "petals", and a new (unstable) shape bounded by three circular arcs, appear in Fig 10, that with Fig 1, a square inside a circle. Show that the sum of the areas of the four new shapes equals the area of the square. Find the relation between the area of a petal to the area of a segment, as in Fig 1.

## Examinations and syllabuses

continued from page 52

to maths are much healthier than they were, both among teachers and pupils. All over the country, courses in maths teaching continue to be over-subscribed. (While this phenomenon may not necessarily show universal enthusiasm, I refuse to believe it should be put down to fear.) Fewer children now have the loathing for mathematics that was once quite common.

But, as a teacher remarked recently, "A prospective employer is not likely to be impressed by the argument that understanding is greater and attitude healthier if he is constantly finding that standards of computational ability are falling." Such criticism must not send us scuttling back to the days of "turn the tables down", "crick a nought on the end", teaching by rote, and learning solely by rote. Perhaps what we should do periodically, whether there is criticism or not, is to look at the main constituents of our teaching—concepts, skills, facts, methods—and ensure that the mixture is giving the best possible help to the children.

In his book *Evolution of Mathematical Concepts*, Professor R. L. Wilder comments: "Perhaps no other subject is so susceptible to such extremes of good and bad teaching as mathematics, and much bad teaching stems from a failure to bring out the excitement of creating mathematics. And a single note for making mathematics exciting to a pupil is for the teacher to be excited about it himself; if he is not, no amount of pedagogical training will make up for the defect."

If the Mathematics 5-11 Project can help to instill a sense of excitement, and increase the enthusiasm which already exists among teachers, those involved in the project will be more than gratified.

Eric Albany is project organiser Mathematics 5-11.

## Book review

Advanced Mathematics: A Unified Course. Book Two. By L. K. Turner, P. J. Budden and D. Knighton. Longman £3.95, 582 352401.

One appreciates the ambition of the authors in claiming to "cover, with minor exceptions, the work of all the new single-subject mathematics A-level syllabuses" only when one realises that this includes all the permutations of "Pure Mathematics", "Pure Mathematics and Statistics", and "Pure Mathematics with Statistics". Together with all the varying degrees of modernity favoured by different examination boards.

With the understandable exception of one or two new project-based courses in "Pure Mathematics with Statistics" their claim is fully justified. An idea of the comprehensive coverage can be obtained from some of the section titles like "The calculus of variations", "vector products", "isomorphism of finite groups", "functions of a complex variable", and so on.

This is all the more remarkable when one remembers that Book One, comparatively slim, although there is an additional booklet (Book T) to cover the introductory work in vectors and mechanics. Not surprisingly Book Two, which contains all the alternative topics, comes nearer the traditional dimensions of a mathematics textbook. The contents on syllabi but in print of all the introductory work—what is left is simply the logical mathematical development and plenty of good exercises. The result is that the pace appears furious; it is not a book which could safely be given to any but the brightest students for the purpose of individual study.

This approach is fine for the many good experienced teachers of mathematics who can judge exactly the right pace, and who know just which proofs to omit, for any particular class. They will also be able to supply the introductory leads to problems, and the opportunity to dwell round the vague ideas before crystallising them into symbolism. The mathematical bywaters like transcendental numbers (rarely excepted on syllabi but undoubtedly supplying the mathematical highlights of the course are not by-passed). Indeed the strength of this book is in the mathematical bywaters which is not only what the average teacher would expect from such authors, but is often accompanied by an obvious sense of delight in the mysteries and patterns of the subject.

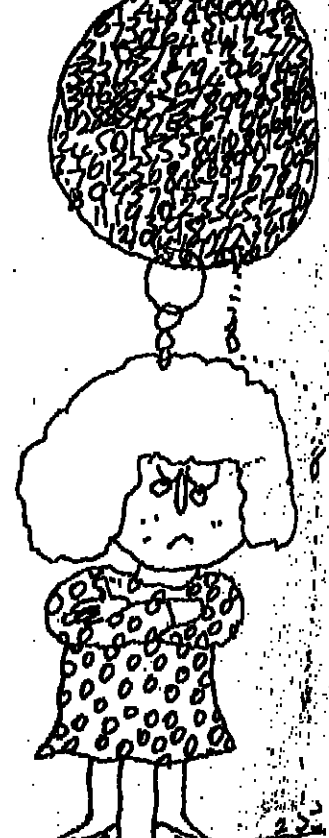
However, there is another less happy side to this "mathematics-for-its-own-sake" attitude. One can usually get away with the traditional "mathematics first, applications later" approach in the sections on pure mathematics and even in mechanics; after all it makes for clarity even if at the expense of motivation and insight. But the chapter on statistics suffers particularly from this approach. The chapter on probability density functions, to histograms, and from the covariances formulae for joint probability distributions to scattergrams makes not only for pedagogical suicide,

but also denies the empirical nature of the subject.

Another casualty from the past approach is that the opportunity is missed to introduce both ideas and notation, and numerical techniques, which seems a pity in an age where most school mathematics own personal pocket calculators.

This series will almost certainly sell well; there are many reasons why it deserves to do so.

Margaret Day



**MATHEMATICS ILLUSTRATED**  
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Facile, figures and people—unique guide to mathematics old and new. Over 2,000 terms and alphabetically listed, defined, explained, and often illustrated.

Kaye & Ward

## PRIMARY Scale 1 Posts continued from page 46

### CAMBRIDGESHIRE

**HUNTINGDON AREA**  
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## CUMBRIA

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## DEVON

**HAUNTON C.M.P. SCHOOL**  
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**HAUNTON C.M.P. SCHOOL**







## HEADSHIP

### GIRLS GRAMMAR SCHOOL

#### SUBSEQUENTLY

### MIXED COMPREHENSIVE SCHOOL

#### GROUP 11

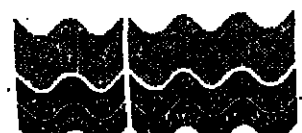
HOVE GRAMMAR SCHOOL FOR GIRLS: Group 10, will be reorganised as a mixed 12 to 18 comprehensive school, Group 11, probably in September, 1978, and the person appointed will at the same time be appointed as Head-Designate of the reorganised school.

Application forms and further details from Chief Education Officer, PO Box 4, County Hall, Lewes.

Closing date 15th October.

Readvertisement:

Applications already received will be reconsidered.



East Sussex

## KENT County Council

### Education Department

Canterbury Division

Herne Bay Secondary School (Group 10)

Applications are invited for the post of

## HEAD TEACHER

of this mixed six form entry secondary modern school from the beginning of the summer term 1977.

Forms of application and further particulars may be obtained from the Divisional Education Officer, 78 London Road, Canterbury (S.E.2), to whom applications should be returned by October 22, 1976.

## Derbyshire headship

Applications are invited from suitably qualified teachers for the headship of this comprehensive school for pupils between the ages of 11-16 years.

Braoston Westernmore School  
672 pupils GROUP 9  
Closing date 15th October, 1976.

Application forms and particulars for the above post (S.E.2) (to be sent to the Director of Education, County Offices, Matlock, Derbyshire DE4 6BG).

## BOROUGH OF HARINGEY

RE-ADVERTISEMENT

## HEADSHIP

THE WILLIAM FORSTER SCHOOL, N15

vacant from 1st January, 1977. This is an 8 form entry mixed Group 11 comprehensive secondary school, on a split site, reorganised in 1967. It has 80 teaching staff and a roll of 1,370, including a developing Sixth Form of over 100 students.

Social: Priority Allowance and London Allowance (£402) payable. Removal expenses 100% allowed.

Forms of application, together with further particulars, available from the undersigned to be returned by 8th October, 1976.

Chief Education Officer, Education Officer, Somerset Road, N17 9EH.

Education Department

## headteacher

FAIRHAM COMPREHENSIVE SCHOOL, Farnborough Road, Clifton Estate, Nottingham. Qualified teachers are invited to apply for appointment as Headteacher of the above school.

Number on roll: 1,800 (11-18). Salary Group: 12. (Sixth Form—104). Vacant: 1st January, or 1st May, 1977.

Application forms and further details may be obtained by forwarding a stamped addressed foolscap envelope to the Director of Education, County Hall, West Bridgford, Nottingham, NG2 7QP.

Closing date: 8th October, 1976.



Nottinghamshire County Council

Education Department

## headteacher

Bluecoat C.E. (Aided) Grammar School, Aspley Lane, Nottingham.

Applications from teachers with appropriate experience are invited for the appointment as Headteacher of the above coeducational grammar school.

Number on roll: 353.

Salary Group: At present Group 8, Group 10 on reorganisation.

Vacant: January 1, 1977, or as soon as possible thereafter.

The Secretary of State has approved Section 13 Notices for the reorganisation of the school as a five form entry (11-18) C. of E. Aided Comprehensive School. It is hoped that the first phase of the necessary building programme will be included in the 1977/78 programme.

Application forms and further details may be obtained by forwarding a stamped addressed foolscap envelope to the Clerk to the Governors, Bluecoat C.E. Grammar School, 24 Law Crescent, Nottingham, and marked "Bluecoat School—Confidential".

Closing date October 12th, 1976.

Nottinghamshire County Council

County Hall West Bridgford Nottingham NG2 7QP

Nottinghamshire County Council

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Nottinghamshire County Council

County Hall West Bridgford Nottingham NG2 7QP

## ESSEX COUNTY COUNCIL

### North East Essex Area

## Thomas Lord Audley School

Monkwick Avenue, Colchester (Roll 774) Group 10

## HEAD

for this Comprehensive School. The successful candidate will be required to take up duties on 15 October 1977, or earlier if possible.

Closing date: 15 October, 1976.

Application forms and further details of this post may be obtained from the County Education Officer, PO Box 47, Threadneedle House, Market Road, Colchester.

Nottinghamshire County Council

County Hall West Bridgford Nottingham NG2 7QP

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Nottinghamshire County Council

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## LONDON BOROUGH OF BEXLEY

Readvertisement

## CHISLEHURST AND SIDCUP GRAMMAR SCHOOL

Roll 1,003 Group 11

Applications are invited for the

Nottinghamshire County Council

County Hall West Bridgford Nottingham NG2 7QP

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County Hall West Bridgford Nottingham NG2 7QP



















**Mid Glamorgan**  
COUNTY COUNCIL

**TEACHING STAFF**  
AEON TAE COMPREHENSIVE

**Merlhyr Tydfil**

Graduates or teacher qualified to teach MATHEMATICS, mainly in the Middle School. Knowledge of Modern Mathematics would be an advantage. Scale 1.

Application forms, to be returned by 13th October, 1978, obtainable on receipt of a stamped, addressed, foolscap envelope, from the District Education Officer, District Education Office, Pontmorfa, Merlhyr Tydfil.

J. L. BRACE,  
Director of Education.

**SCHOOL COUNSELLOR**  
Glenah County Comprehensive  
Rogent Street, Elmora Port, Winal L65 8EJ.  
Tel. 0151 355 453/6.  
Candidates for January 1, 1987, or as soon as possible thereafter, in School Committee to be a member of a team involved in a new and exciting approach to Social Work in the mixed 11-18 Comprehensive School of 1,400 pupils. The team includes a School-based Social Worker and a School Counsellor. The School Committee will select a candidate to assist

# SCALE 1 POSTS

**TECHNICAL SUBJECTS**  
Badford Street County Secondary School for Boys  
Badford Street, Crewe CW2 8JQ. . .  
Tel. Crewe (0270) 3766.  
Grant teacher to offer combination of following subjects: Wood-  
work and/or Metalwork and Technical Drawing. Closing date  
for applications 6th October, 1976

**WOODWORK**  
*Grange County Comprehensive*

**Latham Avenue, Runcorn.**  
Help in obtaining housing may be given in certain circumstances.

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**MATHEMATICS**  
**Holby County Grammar School for Girls**  
**Crestar Road, Helsby, Warrington.**  
**(Eight miles from Chester.)**  
**(753 girls, 150 in Sixth Form.)**  
Graduate Mathematician to teach throughout the school.

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**COMPENSATORY EDUCATION**

**MUSIC**  
**Panckett High Road**  
**Heath Road, Panckett, Warrington WA5 2BY.**  
**Tel. 09256 2501553.**  
We would be sooth as possible, to teach throughout the school.  
The school is an 11-18 co-educational comprehensive school  
situated in a pleasant residential community, and music is a size  
subject. There is a School Orchestra, rapidly growing in size,  
a School Choir, and much individual instrumental tuition.

**ENGLISH/ENGLISH**  
**Richard Fildrough County Secondary**

**GERMAN**  
Sir John Desno's Grammar.  
Northwich (140 boys)  
Required for November 1964. If possible, a teacher of German preferably also able to teach French if required, to work in a vigorous Modern Languages Department. Examination work will be avoided. The available facilities are considerable and well provided with audio-visual equipment and there is ample scope for a young teacher to develop his own interests both in the Department and in the corporate life of the School.

**GEORGRAPHY**  
Stanley County Comprehensive  
Tel. 031 355 5245.

in the area of the [redacted] as a temporary appointment for  
one year, probably of a permanent post.



























**LONDON**

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 2297-2298. H.M. Hill  
 2299-2300. H.M.

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**Modern Languages**  
**Head of Department**  
**NT**  
**SACRED HEART SCHOOL**  
Lymington, Lymington Wells  
SO41 1SD  
**GRADUATE**, to be required in Janu-  
1977, to teach FRENCH and

...the head of Modern Language School  
...to help with res-  
...in this language boys'  
...and day school for 200 girls  
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**School Assistants**  
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Combe Bank Senior  
use the headmistress

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Applications are invited for an appointment as Lecturer Grade I, to teach office arts. The successful candidate will be required to teach shorthand, typewriting and office practice to full-time and part-time students.

**SALARY: £2,781-£4,689 Lecturer Grade I**

Application forms may be obtained from the Senior Administrative Officer, Fielden Park College of Further Education (a stamped addressed footsized envelope should be enclosed).







## ST. JOHN'S SCHOOL TIFFIELD, TOWCESTER

### A BUILDING INSTRUCTOR

is required to take over the running of this highly successful Department at the above Community School for boys between the ages of 13 and 17.

This is a challenging opportunity to undertake an interesting and varied job. As well as workshop and classroom experience, the Department is also involved in building and maintaining much of the present school. Applicants should have a wide experience, good qualifications and preferably a teaching qualification. The successful applicant would be expected to take a part in the corporate life of one of the residential boys' houses.

#### SALARY:

Teacher trained: Burnham, plus allowances of £564 and £879 per annum.

Other: £2,847 to £4,041, plus £879 per annum.

Applicants are invited to write the Deputy Headmaster in the first instance—Blisworth 858399.



## CROYDON ADULT EDUCATION SERVICE

### APPOINTMENT OF TUTOR/ORGANISER FOR CROYDON HOME-BASED ENGLISH LANGUAGE TRAINING SCHEME

Applications are invited from suitably qualified and experienced persons for the post of full-time Tutor/Organiser for the Croydon Home-based English Language Training Scheme. The successful candidate will be responsible for the organisation, administration and development of the scheme, and will be expected to undertake English Language teaching for up to 10 hours per week.

The successful candidate (who should be a car owner) will be responsible for the organisation, administration and development of the scheme, and will be expected to undertake English Language teaching for up to 10 hours per week.

The appointment will be for 1 year only in the first instance, and is renewable as from 1st January, 1977 or earlier if possible.

Salary will be in accordance with the Lecturer 1 Scale of the current Burnham F.E. Report (£2,781-£4,689 plus £297 London Allowance).

Further information and application forms, returnable by 15th October, 1976, may be obtained from the Director of Education (F.E.), Education Department, Taberner House, Park Lane, Croydon CR9 1TP (Tel.: 01-886 4433, ext. 2292).

## Fit The THES on Your Schedule

The Times Higher Education Supplement puts you in touch with higher education. Find out how cheap it is to teach the higher education market—call our advertisement department on 01-837 1234.

## THE TIMES Higher Education Supplement

## Universities

**BATH**  
THE UNIVERSITY  
SCHOOL OF EDUCATION  
PART-TIME TUTOR  
The School of Education is seeking a part-time tutor for the concurrent degree course in Education for the year 1977-78. The tutor will be responsible for the delivery of the course in the School of Education, Bath, and will be expected to undertake a significant amount of teaching and supervision. The successful candidate will be expected to have a good knowledge of the subject and to be able to communicate effectively with students. The salary will be in accordance with the current scale for part-time tutors. Applications should be sent to the Director of Education, Bath University, Bath, BA2 9AT.

**CANADA**  
A sociologist of education with a special interest in the history and development of education in Canada is required for a full-time position in the Department of Education, University of Toronto. The successful candidate will be expected to undertake research and teaching in the field of the history and development of education in Canada. The salary will be in accordance with the current scale for full-time lecturers. Applications should be sent to the Director of Education, University of Toronto, Toronto, Ontario.

**DURHAM**  
THE UNIVERSITY  
LECTURERSHIP IN EDUCATION  
Applications are invited for the post of Lecturer in Education in the Department of Education, Durham University. The successful candidate will be expected to undertake research and teaching in the field of education. The salary will be in accordance with the current scale for lecturers. Applications should be sent to the Director of Education, Durham University, Durham, Co. Durham.

**GERMANY**  
Frankfurt/Main  
An English speaking teacher of English is required for a full-time position in the Department of English, Frankfurt/Main. The successful candidate will be expected to undertake research and teaching in the field of English. The salary will be in accordance with the current scale for full-time lecturers. Applications should be sent to the Director of Education, Frankfurt/Main, Germany.

**SOUTHAMPTON**  
THE UNIVERSITY  
TEMPORARY ASSISTANT IN  
EDUCATION  
Applications are invited for the post of Temporary Assistant in Education in the Department of Education, Southampton University. The successful candidate will be expected to undertake research and teaching in the field of education. The salary will be in accordance with the current scale for temporary assistants. Applications should be sent to the Director of Education, Southampton University, Southampton, Hampshire.

**UNIVERSITY**  
APPOINTMENTS  
The University of London is seeking a full-time tutor for the concurrent degree course in Education for the year 1977-78. The tutor will be responsible for the delivery of the course in the School of Education, University of London, and will be expected to undertake a significant amount of teaching and supervision. The successful candidate will be expected to have a good knowledge of the subject and to be able to communicate effectively with students. The salary will be in accordance with the current scale for full-time tutors. Applications should be sent to the Director of Education, University of London, London, W.C.2.

**Colleges of  
Higher Education**  
The College of Education, University of London is seeking a full-time tutor for the concurrent degree course in Education for the year 1977-78. The tutor will be responsible for the delivery of the course in the College of Education, University of London, and will be expected to undertake a significant amount of teaching and supervision. The successful candidate will be expected to have a good knowledge of the subject and to be able to communicate effectively with students. The salary will be in accordance with the current scale for full-time tutors. Applications should be sent to the Director of Education, College of Education, University of London, London, W.C.2.

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**LONDON, N.17**  
COLLEGE OF ALL SAINTS  
The College of All Saints is seeking a full-time tutor for the concurrent degree course in Education for the year 1977-78. The tutor will be responsible for the delivery of the course in the College of All Saints, and will be expected to undertake a significant amount of teaching and supervision. The successful candidate will be expected to have a good knowledge of the subject and to be able to communicate effectively with students. The salary will be in accordance with the current scale for full-time tutors. Applications should be sent to the Director of Education, College of All Saints, London, N.17.

**WALTHAM FOREST**  
WALTHAM FOREST COLLEGE  
The Waltham Forest College is seeking a full-time tutor for the concurrent degree course in Education for the year 1977-78. The tutor will be responsible for the delivery of the course in the Waltham Forest College, and will be expected to undertake a significant amount of teaching and supervision. The successful candidate will be expected to have a good knowledge of the subject and to be able to communicate effectively with students. The salary will be in accordance with the current scale for full-time tutors. Applications should be sent to the Director of Education, Waltham Forest College, Waltham Forest, London, N.17.

**Teachers' Centres**  
CROYDON  
The Croydon Teachers' Centre is seeking a full-time tutor for the concurrent degree course in Education for the year 1977-78. The tutor will be responsible for the delivery of the course in the Croydon Teachers' Centre, and will be expected to undertake a significant amount of teaching and supervision. The successful candidate will be expected to have a good knowledge of the subject and to be able to communicate effectively with students. The salary will be in accordance with the current scale for full-time tutors. Applications should be sent to the Director of Education, Croydon Teachers' Centre, Croydon, Surrey.

**Adult Education**  
CHESHIRE  
The Cheshire Adult Education Service is seeking a full-time tutor for the concurrent degree course in Education for the year 1977-78. The tutor will be responsible for the delivery of the course in the Cheshire Adult Education Service, and will be expected to undertake a significant amount of teaching and supervision. The successful candidate will be expected to have a good knowledge of the subject and to be able to communicate effectively with students. The salary will be in accordance with the current scale for full-time tutors. Applications should be sent to the Director of Education, Cheshire Adult Education Service, Cheshire.

**LEICESTERSHIRE**  
The Leicestershire Adult Education Service is seeking a full-time tutor for the concurrent degree course in Education for the year 1977-78. The tutor will be responsible for the delivery of the course in the Leicestershire Adult Education Service, and will be expected to undertake a significant amount of teaching and supervision. The successful candidate will be expected to have a good knowledge of the subject and to be able to communicate effectively with students. The salary will be in accordance with the current scale for full-time tutors. Applications should be sent to the Director of Education, Leicestershire Adult Education Service, Leicestershire.

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## Community and Associated Institutions

**MANCHESTER (City of)**  
EDUCATION COMMITTEE  
ADULT LITERACY IN SERVICE  
The City of Manchester Education Committee is seeking a full-time tutor for the concurrent degree course in Education for the year 1977-78. The tutor will be responsible for the delivery of the course in the City of Manchester Education Committee, and will be expected to undertake a significant amount of teaching and supervision. The successful candidate will be expected to have a good knowledge of the subject and to be able to communicate effectively with students. The salary will be in accordance with the current scale for full-time tutors. Applications should be sent to the Director of Education, City of Manchester Education Committee, Manchester, M.1.

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## Nene College Northampton

### SCHOOL OF TECHNOLOGY

### LECTURERS I a) BRICKWORK b) CARPENTRY & JOINERY

For both these posts candidates are required to deal with the theoretical and practical content of City & Guilds courses up to advanced level. Appropriate qualifications together with relevant industrial experience is required.

Salary: Lecturer I Grade Burnham FE Scale £2,781-£4,689

Applications form and further particulars on receipt of stamped addressed envelope from Chief Administrative Officer, Nene College, Moulton Park, Northampton, returnable by 11 October.

## MINISTRY OF DEFENCE

### BURNHAM LECTURER GRADE in THE GENERAL STUDIES WING at No. 2 RESETTLEMENT CENTRE, ALDERSHOT

Applications are invited from suitably qualified people to fill this post in March, 1977.

**DUTIES** To give instruction in English, Figures of Current Affairs to Servicemen on short, condensed courses in preparation for civilian employment. Studies on courses have a wide variety of background and aim. The Lecturer appointed must therefore be prepared to teach a class of men and women going for an examination (e.g. Civil Service EO or O; entry to Police, Prison or Fire Service) or to enter himself to tutorial tuition to suit individual requirements (e.g. "O" or "A" level examinations or Skillcentre entrance tests).

**QUALIFICATIONS AND EXPERIENCE** A degree or recognized equivalent is desirable. The successful candidate is likely to be mature and someone who has had several years experience of adult education in a service environment.

**SALARY** Salary will be in accordance with the current scales for Teachers in Establishments for Further Education, England and Wales, i.e. £2,469 to £4,377 plus £312 Supplement, according to qualifications and experience. A pensionable allowance of £682 p.a. will be paid for the slightly longer working year. The appointment is pensionable under the Teachers' Superannuation Act and the successful candidate will be granted established civil servant status.

**APPLICATION FORMS** Requests for application forms should be sent to the Ministry of Defence, CM91 4(L), Room 342, London, Whitehall Road, London WC1X 8YX, and completed applications should be returned no later than October 22, 1976, quoting AW/1410.

## Neighbourhood Development Officer (Youth)

£4,000-£4,450 p.a.  
plus a supplement of £312 p.a.

Widen your horizon in Leicester

This new post in the Recreational & Cultural Services Department presents an opportunity for a young person to become familiar with the management problems of a community centre whilst continuing to speculate in work with children. Duties of this post are divided equally between running a youth club and general work in the community. As a member of the community team there will be a special responsibility for work with children of all ages in structured and unstructured situations, both in the centre and in the neighbourhood generally. A diploma in youth and community work or an equivalent qualification is essential and experience in the field is highly desirable. Additional payment for evening and weekend work will be paid of the normal 37 hour week is included in the salary quoted. Financial assistance towards removal and residential expenses and a staff house may be available. For successful applicant moving to Leicester.

For further details apply to the:

Director of Personnel and  
Management Services  
Leicester City Council,  
New Walk Centre,  
Wellford Place,  
LEICESTER.

Closing date: October 15th, 1976.



## Suffolk County Council

West Suffolk College of Further Education  
In association with H.M. Prison High Point and  
North Ridge, Stradishall, Suffolk

### Assistant to the Education Officer

Applicants for this full-time post should be qualified and experienced teachers, preferably with interest in remedial teaching of basic subjects. The appointment is to be effective from 1st January, 1977.

The Education Staff work under the direction of the Principal of the West Suffolk College of Further Education.

H.M. Prison Stradishall will open at the end of February, 1977, with an initial intake of 300.

Salary: F.E. Lecturer Grade 1: £2,469-£4,377 p.a. + £312 pay award. Starting salary depends on qualifications and experience.

Further particulars and application forms (s.a.s. please) from County Education Officer (Ref: FJS), Education Department, Grimwade Street, Ipswich IP4 1LJ, Suffolk.

Closing date 14th October, 1976.

## MINISTRY OF DEFENCE SERVICE CHILDREN'S EDUCATION AUTHORITY DERBY MIDDLE SCHOOL-OSNABRUCK FEDERAL REPUBLIC OF GERMANY REMEDIAL TEACHER SCALE 3

A teacher is required in this new open plan school to coordinate remedial work, diagnose learning difficulties and advise teachers on all aspects of remedial education.

Salary is in accordance with current Burnham Scales plus London Allowance.

Superannuation—normal rights are safeguarded. Foreign Service Allowance—a tax free allowance is payable.

Accommodation—is provided rent-free. Duration of Engagement—initial engagement is for three years.

All applicants should normally be resident in the United Kingdom. Teachers do not normally serve in the Service Children's Schools abroad after the age of 50, and therefore, the preferred age is under 47 years at the commencement of the engagement.

Requests for application forms and further information should be made on a postcard or by telephone to:

Service Children's  
Education Authority  
(S) AW 3136  
Teacher Appointments  
Section  
IAE Court Road, Eltham  
London SE8 5BN  
Tel. 01-859 2112  
Ext. 238 or 221  
Quote MJ2

## West Indian Youth Project

### Youth and Community Officer

Required to take charge of this project which is based upon City Centre premises owned by the Education Authority and recently fitted out and equipped by the Coventry Community Relations Council under a job creation programme.

A full time deputy officer will be appointed and part time help will be available.

Salary JNO scale 2 or range 3 or range 4 dependent upon qualifications and experience. £2,712 to £3,637 or £4,248 or £4,524 plus £312 per annum on each salary point.

Application forms and further particulars obtainable from the Director of Education, Council Office, Earl Street, Coventry. Telephone: Coventry 26555, Ext. 2292.



## London Borough of Redbridge Re-advertisement

### Youth Tutor or Full Time Warden

Loxford Youth and Adult Centre,  
Loxford High School,  
Loxford Lane, Ilford, Essex.

Applications are invited from suitably qualified and experienced persons for the above post which became vacant on 1st September 1976.

The Youth Tutor, who will be a qualified teacher, will be expected to undertake teaching duties within the school, in addition to being responsible for the Youth and Adult Centre. Consideration will be given to the appointment of a full-time Warden whose duties will not include a teaching commitment within the school programme.

Salaries are as follows:—  
Youth Tutor: Burnham Scale 3—£3,634-£5,214 inclusive of London Weighting plus £312 supplement payment.

Warden: Burnham F.E. Lecturer, Grade 1—£2,766-£4,574 inclusive of London Weighting plus £312 supplement payment.

Application forms and further details are available from Chief Education Officer, Education Office, 255-259 High Road, Ilford, Essex IG7 1NH.



### County Council Education Department Assistant Tutor Organiser Adult Literacy Scheme

The Adult Literacy Resource Agency in consultation with the Gwent Education Committee invite applications from suitably qualified persons for the post of Assistant Tutor Organiser to the Adult Literacy Scheme in Gwent.

Salary: Lecturer II—£1,279-£5,493 (plus £312 p.a. salary supplement) plus London Allowance.

The successful applicant will be required to commence duties as soon as possible and the appointment will terminate on 31st March, 1978.

Applications to be submitted by 13th October, 1976. Application forms and further information, where applicable for the above appointments in the Education Department, may be obtained on receipt of a s.a.s. from the Director of Education, Gwent County Council, County Hall, Cwmbom, Gwent, NP4 2XG to be returned by the dates shown in the same address.

### Social Services Department Peregrines Reception Assessment Centre 13 Granville Road, Ilford, Essex Houseparent Resident or non-resident

Salary £2013-£2841 + £285 p.a. London Weighting or, if resident £183 p.a. London Allowance less emoluments.

Looking for good experience? Then why not see what we have to offer. Pleasantly situated on the outskirts of London, Peregrines offers you the opportunity to embark on, or further, a social work career. There is a high proportion of trained staff, opportunities for further training and helpful support.

Why not find out more? Please ring 01-554 4488 and ask for Peter Finch, Ralph Keene or Cliff Page.

## Redbridge London Borough

### COUNTY OF HEREFORD AND WORCESTER EDUCATION DEPARTMENT

### Worcester College of Higher Education

Applications are invited for the post of

### PRINCIPAL

which becomes vacant as from 1 September, 1977, following the retirement of Mr. E. G. Pearson, C.B.E., M.A., B.Sc.

Salary within the range appropriate for a Group 7 College under the Burnham F.E. Report (currently £10,572-£11,082).

Further details from the Clerk to the Governing Body, Worcester College of Higher Education, Hanwick Grove, Worcester to whom applications should be submitted by 28 October, 1976.



# MANCHESTER EDUCATION COMMITTEE ABRAHAM MOSS CENTRE, CRESCENT ROAD, CRUMPSALL, MANCHESTER M8 6UH Youth and Community Residential Wing

Required as soon as possible, TWO WARDENS to accept joint responsibility for the day to day running and future development of the residential wing.  
SALARY: Post 1, £2,771 by £5 to £3,248 plus £312 per annum Supplement.  
Post 2, £3,426 by £5 to £3,888 plus £312 per annum Supplement.  
The person appointed to Post 1 will be required to accept overall responsibility for the operation of the wing.  
The person appointed to Post 2 will be required to accept overall responsibility for the day to day running and future development of the residential wing.  
The wing is part of the Abraham Moss Centre, an extensive community development in North Manchester which includes a school, a College of Further Education, a Youth Club, shared use district library, a shared use leisure centre, a performing arts centre, a canteen, a shop and a club for the elderly and handicapped.  
The wardens will be responsible for the administration, co-ordination and supervision of the wing. They will work closely with the Youth Tutor, other members of the Youth and Community team and school staff.  
The role of warden will be both stimulating and interesting but it will also demand a high level of commitment.  
Experience of residential work, teaching, youth or community work would be an advantage although not essential.  
Application forms and further particulars from the Senior Administration Officer at the Centre to be returned by 15th October, 1976. Assistance may be given with removal expenses. Accommodation for the warden is provided in a furnished bungalow at a modest rate.

# Mid Glamorgan COUNTY COUNCIL

## EDUCATION DEPARTMENT OGMORE RECREATION CENTRE Ogmore-by-Sea, Nr. Bridgend

# RESIDENT WARDEN

## Salary Scale — Head Teacher, Group 5

Applications are invited from experienced, qualified teachers for this post. The Centre provides a variety of residential courses, mainly for pupils of secondary age, in music, languages, sport, craft, outdoor activities, etc. Applicants should have experience of the organization of residential courses for pupils.  
Free accommodation provided in exchange for extraneous duties.  
Application forms, to be returned by 8th October, 1976, are available from the Director of Education, Mid Glamorgan County Council, 1st Floor, 10, Victoria Road, Bridgend, Ceredigion, SA7 1AA.  
The successful candidate will be required to accept overall responsibility for the day to day running and future development of the residential wing.  
The wing is part of the Abraham Moss Centre, an extensive community development in North Manchester which includes a school, a College of Further Education, a Youth Club, shared use district library, a shared use leisure centre, a performing arts centre, a canteen, a shop and a club for the elderly and handicapped.  
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# COMMUNITY HOMES continued

## Other Appointments

### HERTFORDSHIRE

#### HERTFORDSHIRE SOCIAL SERVICES

##### YOUTH AND COMMUNITY SERVICES

###### SAVERIDGE

###### SAVERIDGE

###### SAVERIDGE

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# KENT COUNTY COUNCIL EDUCATION DEPARTMENT MIDWAY DIVISION continued

## Other Appointments

### HERTFORDSHIRE

#### HERTFORDSHIRE SOCIAL SERVICES

##### YOUTH AND COMMUNITY SERVICES

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# Youth and Community Service

## HERTFORDSHIRE

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#### YOUTH AND COMMUNITY SERVICES

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## County of Cleveland

### EDUCATION DEPARTMENT COUNTY PSYCHOLOGICAL SERVICE

Applications are invited from qualified and experienced educational psychologists for two posts within the County Psychological Service.

### SENIOR EDUCATIONAL PSYCHOLOGIST

**NORTH CLEVELAND**  
£6,801 to £7,425

The successful applicant will lead a team of three Psychologists and two Social Workers, based in purpose-built premises opened earlier this year.

### SPECIALIST EDUCATIONAL PSYCHOLOGIST— (CHILDREN-IN-CARE)

**£5,832 to £6,972**

The person appointed will be attached on a half-time basis to one of the four area teams in Cleveland, with the remainder of the time spent either dealing with children in care or coordinating the investment of colleges with such children.

Both posts warrant an essential car user's allowance.

In approved cases, financial assistance with the removal of household effects may be available. Temporary housing accommodation for married couples may be available in approved cases within the County area.

Further details and application forms are available from the County Education Officer, Education Offices, Woodlands Road, Middlesbrough, Cleveland, to whom completed forms should be returned by October 15, 1976.

### ADMINISTRATION General continued

#### LONDON LONDON AND HOME COUNTY COUNCIL EDUCATION DEPARTMENT

Due to the retirement of the County Educational Psychologist, applications are invited for the following posts:

#### OFFICE SUPERINTENDENT (Salary Scale £3,350 to £4,074)

The successful applicant will be responsible to the Director for the organization, co-ordination and supervision of work of the office and its staff.

#### ADMINISTRATIVE OFFICER (Salary Scale £2,650 to £3,350)

This officer will be responsible for the collection and analysis of statistical information for day-to-day business and for the preparation of reports and statistics.

#### ADMINISTRATIVE ASSISTANT (Salary Scale £1,850 to £2,650)

Due to the retirement of the County Educational Psychologist, applications are invited for the following posts:

#### ADMINISTRATIVE ASSISTANT (Salary Scale £1,850 to £2,650)

In all cases the £12.50 per annum increment and a 7.5% London allowance is payable.

#### NATURAL ENVIRONMENT RESEARCH COUNCIL

INSTITUTE OF GEOLOGICAL  
SCIENCES

AN ASSISTANT SCIENTIFIC  
OFFICER is required to assist in the management of the Institute's research programme.

Applications should be sent to the Director, Institute of Geological Sciences, 1, White Court, London, W1R 2AL.

### SCOTLAND THE SCOTLAND COUNCIL EDUCATION DEPARTMENT

#### RESEARCH OFFICER and RESEARCH ASSISTANT

Applications are invited from teachers with at least three years' experience for the post of Research Officer.

#### RESEARCH ASSISTANT

Applications are invited from teachers with at least one year's experience for the post of Research Assistant.

#### RESEARCH ASSISTANT

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### HEALTH EDUCATION OFFICER

**Salary: £3,534-£4,344 + £312  
non-enhanceable supplement**

Applications are invited for the post of Health Education Officer from suitably qualified individuals, preferably graduates with a professional background in either Health, Education, or Behavioural/Social Science Research.

Candidates should have an interest in the prevention of illness and the promotion of health and have the ability to work with a wide range of professional and community groups.

The successful candidate would be expected to contribute fully and creatively to the development of this forward looking department and to specialise in an area suitable to his/her talents and professional background. Applicants should have a clean current driving licence and a car.

Application form and job description available from the Area Personnel Department, Derbyshire Area Health Authority, "Wilderness", 121 Osmaston Road, Derby DE1 2GA, Tel. Derby (0332) 383371, ext. 282.

Further details may be obtained by telephoning Mr. H. Seymour, Area Health Education Officer, Tel. Derby 383321, ext. 63.

Closing date for receipt of applications: 15th October, 1976.

## Derbyshire AREA HEALTH AUTHORITY

### LANCASHIRE EDUCATION AUTHORITY

#### Appointment of Full Time or Part Time EDUCATIONAL PSYCHOLOGIST

**Salary range: Educational Psychologists' Scale  
£3,900-£6,660 plus Annual Salary Supplement  
(£312)**

Applications are invited for appointment to the above post to be based in Area 1 (Lancaster and Wyre).

Applicants should possess an Honours degree in Psychology, teaching experience and post graduate training in educational psychology or equivalent qualification.

The Area Team consists of 3 Educational Psychologists, led by a Senior Educational Psychologist. Good working relationships exist between the Educational Psychologists, Social Workers and Child Psychiatrists working in the Area. Commencing salary will be determined according to age, qualifications and experience. Application forms and further particulars obtainable from the Chief Education Officer, Education Department, County Hall, Preston PR1 8RJ, to whom completed application forms should be returned by 15th October, 1976, quoting reference A398/10/JAG.

Applications are invited for appointment to the above post to be based in Area 1 (Lancaster and Wyre).

Applicants should possess an Honours degree in Psychology, teaching experience and post graduate training in educational psychology or equivalent qualification.

The Area Team consists of 3 Educational Psychologists, led by a Senior Educational Psychologist. Good working relationships exist between the Educational Psychologists, Social Workers and Child Psychiatrists working in the Area. Commencing salary will be determined according to age, qualifications and experience. Application forms and further particulars obtainable from the Chief Education Officer, Education Department, County Hall, Preston PR1 8RJ, to whom completed application forms should be returned by 15th October, 1976, quoting reference A398/10/JAG.

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### Senior Assistant Area Education Officer (West Devon)

Applicants should preferably be Graduates and must have good teaching experience, together with sound experience of educational administration.

The person appointed will have particular responsibility for duties relating to primary and secondary schools, and will deputise, as necessary, for the Area Education Officer. He/she will be based on the West Devon Area Office, Civic Centre, Plymouth.

Salary £8,729 to £7,407, plus additional payment of £312 per annum.

Application forms and further details available from the Chief Education Officer, County Hall, Topham Road, Exeter (Telephone: 0392 77777, extension 282), to whom they should be returned by October 8, 1976.

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### LONDON BOROUGH OF BRENT EDUCATION DEPARTMENT

#### TYLNEY RESIDENTIAL OUTDOOR EDUCATION CENTRE ROTHERWICK, NEAR HOOK, HAMPSHIRE

(Opened September 1976)

#### OUTDOOR EDUCATION

Applications are invited for the following post:

### PRINCIPAL

(Burnham Senior Teacher)

Initially this appointment will be for 2 years with the possibility of an extension or secondment to a post elsewhere in the Authority.

It is hoped to recruit someone with training and experience in an environmental subject or other outdoor activity who will enjoy the challenge of establishing educational and leisure programmes for the 9-16 age groups from schools in an Authority which covers many disadvantaged areas.

Some experience of teaching in a Primary School desirable.

Further particulars and an application form can be obtained from: Director of Education, PO Box 1, Chatterfield House, 5 Park Lane, Wembley HA9 7RW, to be returned by 15 October 1976.

### DIRECTORATE OF EDUCATION CAREERS SERVICE

#### Principal Careers Officer

Candidates should have had considerable experience of practical and administrative work in the Careers Service and should possess a Degree or an approved Diploma.

Salary within the range £5,266 to £5,562 inclusive. Casual user car allowance.

Application forms and further details from Chief Further Education Officer, Town Hall, Crayford, Closing date October 8, 1976.

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